A UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

Incorporating *International Commerce*

DECEMBER 25, 1972

Commerce Today

Coming Developments in Business and Technology

Newsmemo

A power project in faroff Afghanistan has become a landmark in the U.S.A. That's because it formed the basis for the first policy issued by the Overseas Private Investment Corp. (OPIC) under a new construction insurance program. The two U.S. firms involved were able to get political risk insurance binders before they submitted their bids. Afghanistan is one of 14 developing nations that has accepted such a pre-award program.

Here's a whole century's worth of advice to those planning to come to the Nation's Capital for the Inauguration on Jan. 20: bundle up. The National Weather Service of Commerce's National Oceanic and Atmospheric Administration quotes the climatic odds: fair skies, temperature about 37, wind 10 miles or less, one in six chance of rain, one in 20 chance of snow. Such estimates are based on records of Washington weather over the past 100 years.

Currency fluctuations are a growing concern of international traders. That is why the Commerce Department was a co-sponsor in Chicago with five banks for an International Monetary and Trade Outlook conference. The main sponsor was the newly-opened International Monetary Market of the Chicago Mercantile Exchange. That market has provided world traders seeking to hedge their risks with futures contracts in seven major foreign currencies. About $14 billion worth of such contracts have moved through the market in less than six months of trading.

Ducks have a message on pesticide contamination for Americans--and Commerce-funded researchers are listening. The ducks, of the old-squaw variety found around Lake Michigan, spend their summers in the contaminant-free Arctic and their winters in the U.S. Two U. of Wisconsin Sea Grant investigators found that ducks just in from the Arctic had only a tenth of the pesticide content of the ducks that had summered along Lake Michigan. Also, wide variations in contamination were found between ducks caught in heavily-polluted Milwaukee harbor and the more isolated lake waters. Sea Grant funds are administered by the National Oceanic and Atmospheric Administration.

Something new in crabmeat processing has been developed at Virginia Polytechnic Institute funded by a NOAA Sea Grant. It involves a pasteurization technique using plastic bags instead of tin cans. A processor has adopted the technique as a regular part of his production operation and is saving $50,000 annually.

Enough! we all cry at the vibrations in our mechanized modern living that shake our minds and bodies. And now a worldwide standard is being prepared that translates that cry into a practical, measurable level of excess. After ten years of careful study, the drafters have arrived at a standard that applies to vibration in transport, manufacturing, building as well as in the home. It can help designers as they try to minimize the discomforts from vibrating aircraft, subway trains, mass production machines, bulldozers, air conditioners, etc. In the U.S. this standard will be available next year from the American National Standards Institute.

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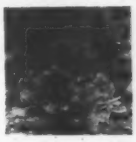

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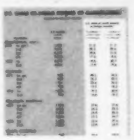

Data service on foreign firms speeded—U.S. mission to Japanese foundrymen—Quarterly report, U.S. share of manufactured exports—Exhibition results at U.S. Trade Centers—Economic trends in Switzerland, Bahamas, Greece, Yugoslavia—Business holidays in 1972 in 130 nations—Licensing and sales opportunities.

COVER: *Christmas is an especially appropriate time to focus on the tree. As our story beginning on Page 11 points out, without proper management of the nation's forests in the next few decades, supplies of wood products may be dangerously low by the turn of the century.*

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Published biweekly by the U.S. Department of Commerce, Washington, D.C.

Annual subscription rate $15 ($3.75 additional for foreign mailing, $14.30 additional for domestic air mailing). Single copy 60 cents. Make checks or money orders payable to Superintendent of Documents and mail to Superintendent, U.S. Government Printing Office, Washington, D.C., 20402, or to any U.S. Department of Commerce Field Office.

All subscription inquiries and address changes should be sent to the Superintendent of Documents, at the above address. This is the central distribution agency for U.S. Government publications.

Microfiche copy available at 95 cents per issue from National Technical Information Service, Springfield, Virginia, 22151.

Other inquiries should be sent to the U.S. Department of Commerce, 14th Street and Constitution Avenue, Washington, D.C., 20230.

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ECONOMIC
HIGHLIGHTS

Capital Outlays, Spurred By Manufacturing, Expected To Rise Strongly Again Next Year

Economic Highlights is prepared by Dr. Harold C. Passer, Assistant Secretary for Economic Affairs, and is based on the latest economic indicators (see charts on adjoining page).

American business plans another substantial increase in plant and equipment spending in 1973. The latest survey by the Commerce Department's Bureau of Economic Analysis projects a gain of 12 percent in the first half of 1973, which implies a slightly larger increase for the year than the 9 percent rise in 1972. A particularly vigorous increase is expected in the manufacturing sector in 1973.

The 1972-73 gains represent a vast improvement over the relatively small increases of 1970-71, but they are in line with the current rate of growth in Gross National Product, which in the third quarter was about 10 percent over a year ago. In brief, spending for new productive facilities, a basic necessity in a dynamic economy, has quite obviously made a strong recovery since late 1971 but it is not outstripping the growth rate of the economy as a whole. Thus, the economic expansion continues to be well-balanced and sustainable.

As the first chart shows, capital outlays stopped rising from mid-70 to mid-71, in a delayed reaction to the 1970 recession, but did not decline significantly as in previous recessions. As is shown by the second chart, this sluggishness in the total was the result of little change in non-manufacturing combined with a slight decline in manufacturing.

In fact, capital spending by manufacturers has been sluggish since 1969 and has shown no sustained growth since the 20-percent annual increases in 1964-66. After adjustment for inflation, plant and equipment outlays in manufacturing in the first half of 1972 were at the lowest point since the first half of 1965. Thus, the upturn in manufacturing capital spending in the fourth quarter of 1972 and the 17 percent increase (in current dollars) projected for the first half of 1973 represent a dramatic change in this important sector of the economy. In durable goods manufacturing, the turnaround is even more pronounced. Spending for new facilities decreased 10½ percent in 1971, but is expected to record a 9½ percent increase this year, and a jump of 21 percent in the first half of 1973.

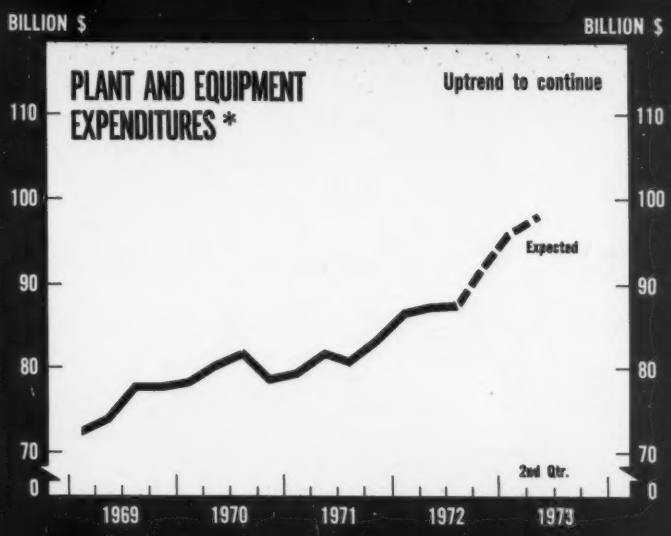
The nation's factories are now operating at a higher percentage of capacity following a 9 percent gain in output over the past 12 months, and further production gains are indicated by the uptrend in new orders. The backlog of unfilled orders has increased for 13 consecutive months. In manufacturing, as well as in other sectors, the ability to finance capital outlays has been enhanced by improving profits, the investment tax credit, accelerated depreciation, and the voluntary program to restrain dividend payments.

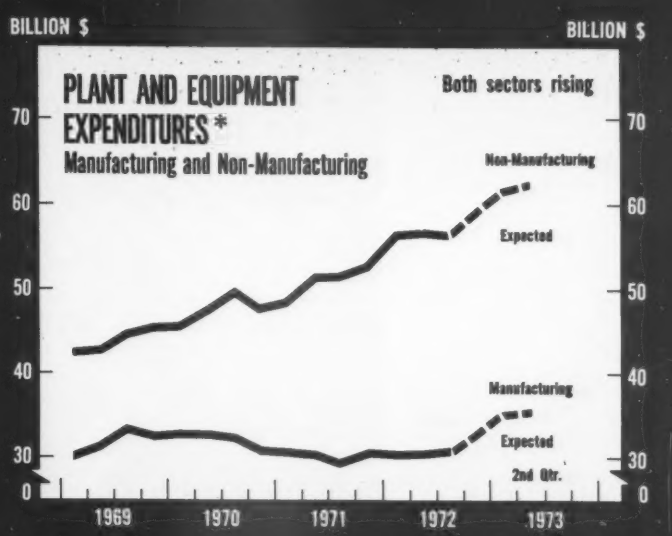
The projections of a strong gain in capital spending in 1973 are supported by the upsurge in contracts and orders for plant and equipment, shown in the third chart, and by the recovery in machine tool orders, depicted in the fourth chart. Machine tool orders are related primarily to capital spending in manufacturing.

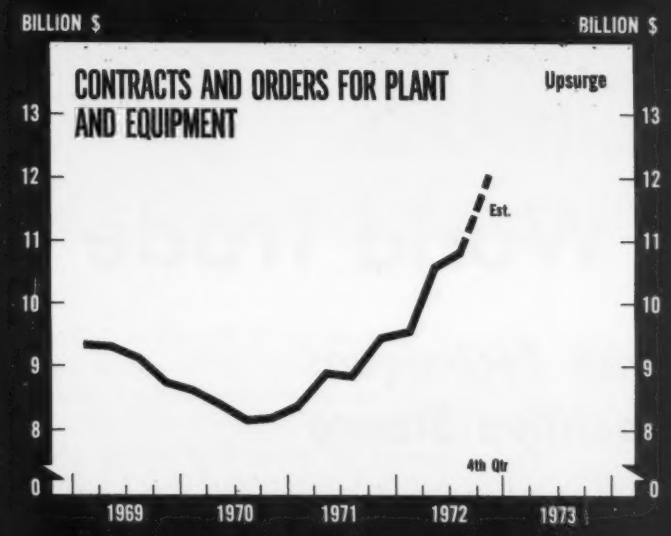
Other economic data

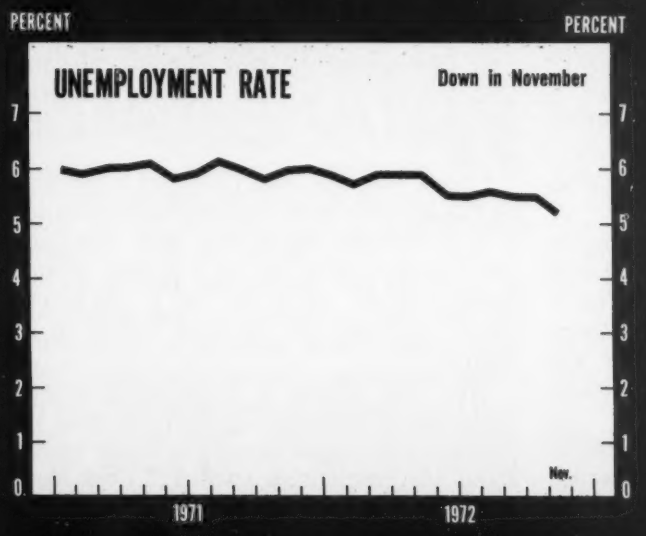
Unemployment declined to 5.2 percent in November and is now within the range predicted by the Nixon Administration for the end of the year. The October advance in retail sales was the strongest monthly gain in 8 years, and combined October-November sales were up 10½ percent over the corresponding months of 1971.

Latest Indicators









All data seasonally adjusted except new orders for machine tools

*Annual rates

Commerce Today
Vol. III, No. 6
December 25, 1972

New Federal Effort Zeroes In On U.S. Position In World Trade

Special Unit To Devise Techniques For Improving Competitive Stance

American businessmen concerned about this country's trade position in the world market may find some reassuring answers in "competitive assessment."

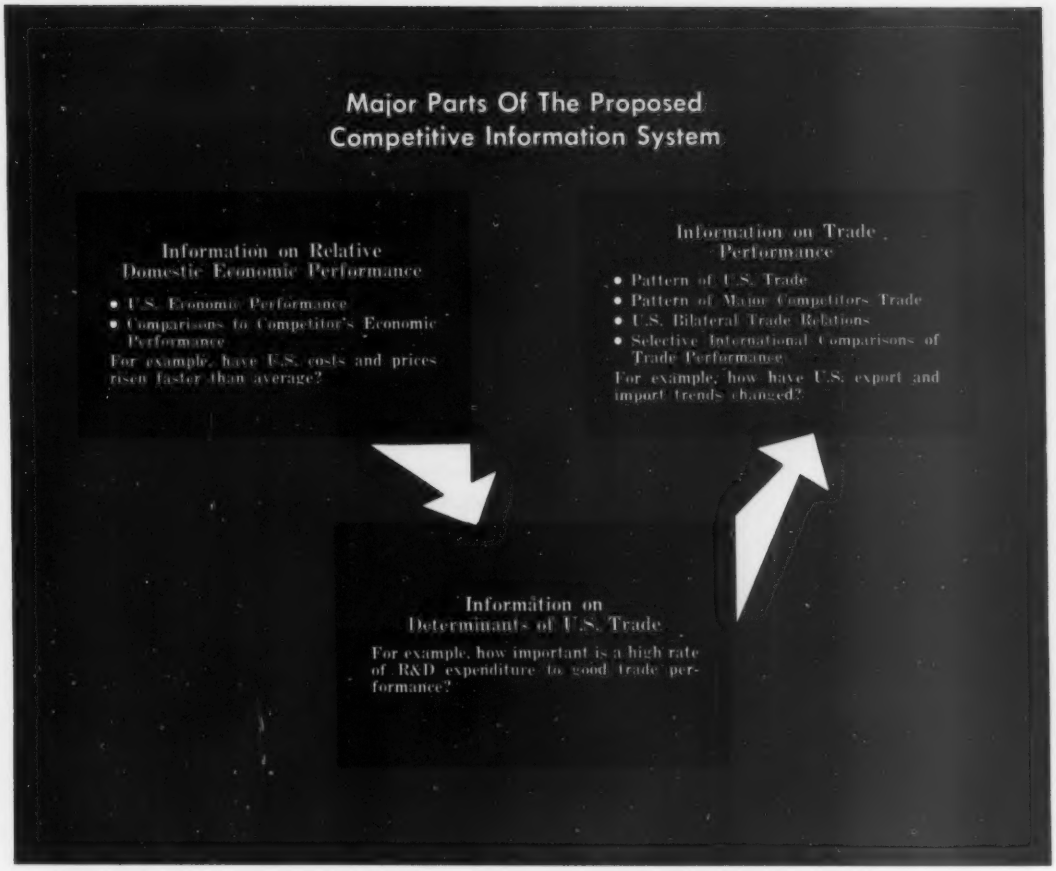
A new Commerce Department effort is expected to zero in on America's competitive position in the international marketplace and the kind of general, across-the-board policies that can be explored to improve it.

The new competitive assessment program means that in the next decade the Nation in general will have a better understanding of how it is competing with its trading partners. And the U.S. businessman, in particular, will know more about his competitive position in marketplaces at home and abroad.

To tackle the job, Commerce's has created a new Bureau of Competitive Assessment and Business Policy out of the former Bureau of Domestic Commerce. Most of the functions of the previous Bureau have been retained, but the priority focus on competitive assessment and related policies is new. Gary Cook, first Director of the new Bureau, calls this undertaking "a tool for decision makers." Admittedly, not a very sexy sounding definition.

Cook's cautious description of what may be this decade's most significant contribution to U.S. business emphasizes both that competitive assessment "is not a process of analyzing specific industries on a one-by-one basis," and that the program is still in its infancy.

"We have talked to businessmen, economists and policymakers to find out what information they need in order to better understand our competitive position," Cook says, "And we now have the preliminary answers in hand."


Major Parts Of The Proposed
Competitive Information System
Information on Relative
Domestic Economic Performance
• U.S. Economic Performance
• Comparisons to Competitor's Economic Performance
For example, have U.S. costs and prices risen faster than average?
Information on Trade
Performance
• Pattern of U.S. Trade
• Pattern of Major Competitors Trade
• U.S. Bilateral Trade Relations
• Selective International Comparisons of Trade Performance
For example, how have U.S. export and import trends changed?
Information on
Determinants of U.S. Trade
For example, how important is a high rate of R&D expenditure to good trade performance?

This initial effort has included an on-the-spot survey of the statistical offices of eight major trading partners of the United States. In assessing the eight countries' data collection efforts, Cook adds, the Bureau has obtained a good understanding of types of data available on determinants of the U.S. trade position. Some basic data will be nearly impossible to collect in the shortrun. But there is much that is available.

"We have identified a set of indicators that would give us a good handle on what our position is," Cook explains. But, collection and evaluation of data is an expensive process and "we are now involved in pinpointing the most useful information and establishing priorities required to obtain it."

Competitive assessment had its birth in the economic developments of late 1971 and early 1972—a pressing need to know more about America's lagging productivity, lower rate of investment, and also, about what Cook calls the "hormones"—that is, special incentives—that some of our major trading competitors are using to improve their competitive position. One generally accepted conclusion was that this country must have better, more refined ways of studying its relationship to other major trading nations.

Started in September

Created in September, the new Bureau is allocating a third of the working hours of its professional staff to the competitive assessment program. This staff is a group which Cook praises for its basic analytical competence and adaptability.

A number of important studies are already under way. The impact of research and development on competitive performance, variations in international taxes, the effects of pollution abatement on U.S. trade, are all in the works.

Cook also emphasizes that if the concept of competitive assessment is to be developed into a successful program, many other units of the Commerce Department must play a key role in the work. To avoid duplication, the Census Bureau, Bureau of Economic Analysis, and other units will be relied upon

COOK AND PROS—*Gary Cook (shown in foreground), Director of the Bureau of Competitive Assessment and Business Policy, discusses the new program with professionals on his staff.*

In addition to the Office of Competitive Assessment which will coordinate the new program, Cook and his deputy director, Paul O'Day have four other offices in the new bureau.

The Office of Business Research and Analysis, ***which includes specialists on consumer goods and services, materials, construction and forest products, transportation and capital equipment, science and electronics and research;***

The Office of Business Assistance, ***a small, high level unit recently established to manage the Bureau's services to business, and tied closely to the Department's Ombudsman for Business;***

The Office of Domestic Business Policy, ***which assesses the costs to business of environmental, pension, safety, and other types of legislation;***

The Office of Industrial Mobilization, ***which works closely with the Office of Emergency preparedness and other Federal agencies on policies and services related to strategic matters.***

when appropriate—especially since they have unique skills and competence.

In addition, the new Bureau will work closely with other Federal organizations concerned with the international competitive situation, such as the Office of the Special Trade Representative, the Tariff Commission and the Treasury Department.

Fill the gaps

"We hope to fill the gaps in policy research, and not duplicate any ongoing efforts elsewhere in the government," Cook says. "Further, my Bureau has a valuable cadre of commodity and industry specialists and they will continue to serve as an information source in government and business as they have in the past," he adds.

According to the present plan, competitive assessment will include information services such as:

- upgrading national and some sector trade data,
- adding national and some sector data on our relative domestic economic performance,
- adding some national data on trade determinants.

The basic data and analytical reports would have as their scope, 10 major trading competitors of the United States. Among these are the European Economic Community, United Kingdom, Canada, Japan and Mexico, which comprise 65 percent of trade. Data would be compiled for a 10 year period and at three principal levels of detail. These are:

- Macro-economic data,
- Sectoral-level data, for example, mining, agriculture and manufacturing.
- More specific data series where appropriate.

Another example of projects being undertaken by the Bureau of Competitive Assessment is the International Trade Study required by the 1972 amendments to the Water Pollution Control Act. This law designates the Department of Commerce to report to Congress in April and annually thereafter, identify and analyze specific disadvantages which flow from unequal pollution controls in various countries.

—Bureau of Domestic Commerce

Productivity Commission Devises Multisided Attack On Food Costs

Peterson Calls For Unified Program Covering Whole Spectrum Of Industry

"The challenge we face is to establish a mechanism that can serve consumer's interest in stable food prices and at the same time guard the right to equity of all the industry's constituent groups. I believe that challenge can best be met by an ongoing government group with productivity in the food industry as its concern."

These statements by Secretary Peterson, chairman of the National Commission on Productivity, were made following a recent meeting of the commission.

Noting that sharply rising food costs have been a source of growing concern to American consumers, Secretary Peterson said food prices, rather than the Dow-Jones averages, constitute the barometer most Americans use to gauge the inflationary state of the U.S. economy.

"To succeed, therefore, in dampening inflationary expectations—the real target of the wage-price control mechanism—we must succeed in alleviating persistent upward pressures on food costs," Peterson asserted.

He called improved productivity in the food industry "of critical long range importance in meeting the challenge."

In the long run, Secretary Peterson said, improved productivity in this industry offers the hope of:

- lower unit costs and thus lower food prices to the consumer;
- higher real wages for food industry employees;
- higher profits for investors that can be used to finance further productivity growth;
- increased quality and quantity of food supplies.

Peterson said he was encouraged by the potential for productivity growth in the food industry.

The Commission staff findings were:

► Of the many opportunities to improve productivity in the food industry, few would bring immediate gains and no single one represents a cure-all.

► Few of the identified opportunities for productivity growth lie within the province of a single segment (such as farm or retail) of the industry to implement. They cut across the entire industry or many segments of it.

► Achievement of significant productivity gains in the industry will require the constructive acquiescence, if not the full support, of many who will lose more in the short run than they will gain.

► Achievements of substantial productivity gains in the industry will require close cooperation between industry and government, which might best be pursued by a government task force or working group whose sole concern is food industry productivity.

Examples of several areas of opportunities for productivity improvement in the food industry include:

Federal, state and local government regulations—More than 2,000 federal regulations are applicable to food. Many are repeated with variations by state and local jurisdictions. A single change by a single state in the ingredients that are required to be listed on a sausage label was estimated to cost an additional $75,000 annually to processors who shipped from out-of-state plants.

One midwestern state requires that hot dogs contain a minimum of 12 percent protein, which can be achieved only by adding high protein powder, such as dry milk powder, to the processed meat. Because this state generally produces an excess of milk, dry milk powder is a readily available additive. Meatpackers from other states not required to use such additives in their states, are forced to create special processing lines if they wish to market their product in that state. The consumers of that state lose the benefit of hot dog price competition provided by out-of-state packers.

Several states require that carrots be sold in clear plastic bags. Out-of-state carrot suppliers are reluctant to provide different types of bags for each state or marketing region, and the result is an additional burden of local packaging, borne by local merchants, which translates into higher consumer prices.

Better food transport—Handling of a food item from farm to consumer is time consuming and expensive. An orange is handled 17 times from tree to table. Apples are packed in 40 different shapes and sizes of containers, none of which fit the standard grocery shipping pallets. The 8,000 most common items in a supermarket warehouse are packaged in 2,650 sizes. Standard packaging is slow in coming, however. Processors developed standards for width and breadth of shipments but in three years have made no progress on height and overlap standards.

Establishment of faster and more reliable delivery schedules could improve the efficiency of growers' harvesting and loading of produce and provide higher quality, fresher fruit and vegetables to consumers.

Although there has been a 40 percent increase in rail shipping rates in the past five years, service has continued to decline.

Potentially large gains in productivity could come from the introduction of innovative transportation equipment, which would permit significantly larger volumes of product per vehicle, self-transfer of commodities to and from the vehicles, and significantly reduce damage to the merchandise. For example, the "Big John" hopper car, especially designed by the Southern Railway System to handle grain, allowed reduced rail rates and improved services, resulting in reduction at the producer level of one cent per dozen of eggs; and one cent per bird in broilers.

This car was introduced by Southern Railway in 1961, but after only a few months of operation, its use was suspended for four years while hearings were held on the potential effects of this service.

Farm policies—Although agriculture has shown the highest productivity growth of any sector in the economy, changes in farm

NEWSPRINT FOR LUNCH—*Beef is a key factor in food industry productivity. This steer at the Agricultural Research Center in Beltsville, Md., enjoys a new feed mixture consisting of one part ground newspaper and nine parts concentrates consisting of molasses, soybean meal and cracked corn.*

AERIAL PATROL—*Agricultural productivity is improved on this ranch by the use of a light plane which keeps watch over hundreds of beef cattle. The pilot flies low to learn if there are any sick cows and check on the presence of predator animals. This is one of a number of mechanized innovations.*

policy effect productivity in other sectors as well.

For many years the U.S. consumer has exhibited a preference for certain characteristics in beef. These preferences are reflected in higher prices for those grades, and hence in farmers' efforts to produce more beef of those types.

'Bull market'

Sixty percent of U.S. beef comes from steers, which come to market weight in about 24 months. Bulls, on the other hand, come to market weight in 18 months on less feed. Bullock beef has a slightly darker color and is not preferred by consumers because it is believed to be tougher and stronger in flavor than steer. This belief is a holdover from the days when bulls were hitched to plows for 20 years and then slaughtered. There is some evidence that beef from young bulls might be able to compete favorably with other grades. The introduction of bull meat as a major factor in meat supplies would reduce the cost of bringing beef to market and significantly raise the productivity of beef production by at least 12 percent per year.

The Commodity Credit Corporation buys cheese to stabilize markets when there are substantial excess supplies. At present, the CCC will purchase natural cheese only in 40 pound blocks, a size which was sensible when most of the handling of stored cheese was done by manual labor, but now is too small to be handled economically by advanced handling methods. It is estimated that as much as 2 percent of the cost of processing cheese could be saved if CCC purchased in blocks of the most economical size.

Milk price support payments are calculated from a USDA standard based on the butterfat weight content of the fluid milk. Improving butterfat content, therefore, has been a major goal of breeders and dairy farmers for many years. This incentive has operated so successfully that in 1971 milk production per cow increased by 50 percent over the comparable amount for 1957. American tastes, however, have shifted away from fat and toward protein. As a consequence,

PART OF PROBLEM—*Tomatoes and the excessive water in them figured into a key problem in food industry productivity discussed earlier this month by Secretary Peterson. These tomatoes are being harvested in the Yakima Valley in Washington.*

market demand for butter and butterfat products has dropped, forcing the USDA to purchase substantial quantities of excess butterfat—rather than leading breeders and dairy farmers to strive for greater protein content.

Clarification of Federal Regulations — Virtually every grocery store in America is served from a grocery, produce or meat warehouse. Trucks often return empty to the warehouse from a store delivery even though they could conveniently pick up inbound shipments from manufacturers and processors for their warehouse. Although some manufacturers do permit pickups by retail fleets, others do not, fearing that offering a delivery allowance could be interpreted as a violation of the Robinson-Patman (Antitrust) Act. This and similar problems might be solved by joint retailer-manufacturer meetings, which have not been held because of perceived antitrust restrictions.

In a number of areas lack of understanding or fear of technical violation of antitrust laws have deterred manufacturers, growers and retailers from joint discussions. Standardization of packaging, for example, represents real potential for significant savings. The lack of standardization in packaging is a serious obstacle to improved materials handling in retail stores and warehouse. Industry representatives fear antitrust action if they attempt to work out cooperative solutions between growers, manufacturers and retailers.

Industry structure—Tomatoes are bought by processors from growers on the basis of net weight, which provides growers an incentive to develop strains which produce the greatest weight per acre.

From 1960 to 1970, it is estimated that tomatoes purchased by processors in California increased on the average of 10 percent by weight—all in water content. A total of 450,000 extra tons of water was added to the 1971 California tomato pack—and to the processors' cost of purchase. But 86 percent of the tomato crop is processed into ketchup and sauces, the first step in processing being to remove the water.

So the growers' "productivity improvement" increases the processing cost. The consumer ultimately pays the water bill.

Catches of desirable seafood products have not increased in 10 years. At the same time, however, there appear to be large number of species which would be potentially acceptable to consumers if the proper finding and harvesting technology were available and consumer markets were developed.

For example, last year's U.S. crab catch totaled 276 million pounds, primarily consisting of blue, snow and king crab. Other crab species (red and Jonah) could supply a potential annual catch of over 500 million pounds. In addition, 100 million pounds of quahog clams potentially could be supplied annually to the market, compared to the current total clam harvest of 83 million pounds.

As work in retail stores and all through the food processing and manufacturing industry has become more complex and more customer oriented, employee motivation also has become vital. Turnover in stores covered in a recent Supermarket Institute survey averaged 14 percent per year among cashiers and exceeded 10 percent per year among meat cutters. In addition to retraining cost when rapid turnover occurs, opportunities for productivity improvement are lost, as well. Although the industry is concerned about employee motivation, it feels no single company can make the necessary investment to undertake research and pilot studies which are needed.

—Productivity Commission

'Woodsman, Manage That Tree' Is New Cry As Industry Plans For Future

Industry Group Promotes Clearcutting Practice, Replants Forests To Meet Needs In 2000 A.D.

By the year 2000, the Federal Government estimates the U.S. need for forest products—which include everything from the newspapers Americans read daily, the brown bags in which they bring home their groceries, to the very roofs over their heads—will have more than doubled.

But will the forest product industries be able to meet this challenge? Will there be enough trees in the United States available for harvest without leaving the country devoid of its magnificent forests?

The U.S. Forest Service, in a preview of a study it plans to publish next year, "Outlook for Meeting Future Timber Demands," warns that unless more private and public forest owners turn to wiser and better forest management programs, the demand for wood products in the United States could far exceed the supply, because of a shortage of available trees for harvest that could develop by the turn of the century.

The summary points out that demands for timber supply have increased 70 percent over the past three decades. Even with this jump in the need for wood fiber, today in the United States trees are still growing on 75 percent of the forest lands that were here 500 years ago when Columbus landed on this soil.

NEW FOREST GROWTH—*A tiny tree starts to reach for the sky. This one has been planted by industry along with others to regenerate the forests. In fiscal year 1971, American Forest Institute reports 1,692,939 acres of land planted by industry.*

HELPING NATURE ALONG—*Research is finding ways for the wood products industry to build bigger trees, better trees, faster. America's trees are its one renewable resource, and the forest industry is committed to regenerating forests as soon as possible.*

An official with the National Forest Products Association notes that today and probably for the next 30 years, the commercial timberlands in this country, coupled with timber imports (the U.S. imports approximately 25 percent of its softwood lumber from Canada), will be able to supply the needs of industry.

And today, far from cutting down trees and ravaging the forests of their beauty, U.S. industry is actually growing 8 percent more trees than it harvests for wood and wood pulp products.

How it's divided

The forest industries, however, own only 9 percent of America's forest lands. Federal and state governments own 19 percent of the timberlands that supply the raw material for building so many of the U.S. houses and cities and making paper products. Four million individual Americans own 39 percent of the entire forest, and 33 percent of public and private forestland is either not suitable for commercial trees, or has been set aside for parks and wilderness areas solely.

Yet the 9 percent owned by forest industries produces one third of all the raw materials needed for today's wood and paper products and still keeps America green and growing.

U.S. industry is not only interested in responsible, scientific forest management to grow more trees and better trees faster, but is also dedicated at the same time to multiple-use management—which includes not only the growing and harvest of trees for housing, wood products and paper, but also the management of the forest for wildlife habitat, recreation, watershed control and scenic enjoyment. A representative of the American Forest Institute puts it as "the widest possible use of our forestlands for the greatest number of people."

Renewable resource

Members of the Wood Products Sub-Council of the National Industrial Pollution Council state, "Our forests are renewable resources which serve multiple uses. The solid wood products industry and the consumers of its products are only some of the beneficiaries. Proper forestry management and proper concern for environmental considerations are essential to the preservation of these remarkable resources for all their beneficiaries.

"Industry is committed, in partnership with Government, to assure the protection of our forests and the ecosystems of which they are such a vital part."

Dual purpose

The U.S. Forest Service, itself, exists for two primary purposes, the protection of the forests and to produce timber for America's needs. Recreation, parks and wilderness areas are a secondary function of the Service.

Every year, however, more acres of American forestland are being lost to super highways, big dams, cities and suburbia. And every year, up to a million acres a year of this forestland is being set aside for single use purposes, where commercial forestry will not be permitted. Since 1900, approximately 16 million acres of forestland has been withdrawn permanently for parks and wilderness areas—about as much land as the combined areas of Rhode Island, New Jersey, Massachusetts, Connecticut and Delaware.

In addition, wildfires, aging of forests, insects and disease claim more forestlands each year than industry harvests.

And perhaps one of the most serious obstacles to assuring abundance of timber to supply U.S. needs in the future is the objection of many environmentalists to one of industry's most basic methods of felling trees, clearcutting.

Many attempts have been made to restrict the use of clearcutting—which is the felling

of all the trees within a limited area in a forestland—on public lands. In fact, early this year the White House considered issuing an Executive Order which would have had the force of law, that contained criteria that would have impaired the ability of Federal agencies to utilize even-aged management for timber growth and regeneration.

America's trees are its one renewable resource, and modern clearcutting can assist nature with their regeneration, leaving openings in the forest that can be penetrated by the sunlight essential to regeneration. In addition, clearcutting substitutes technology for natural disasters and thrift for waste. The result is even-aged forest management.

Under good forest management, clearcut openings in forests—which occur in only 1 to 3 percent of each managed forest area each year—are reseeded or planted with sturdy seedlings, that have been developed scientifically in forest nurseries, as soon as the logs and excess debris are cleared away from the harvested land.

Maximum growth

In the "new" forest, vigor and maximum growth are promoted early by thinning young stands to a spacing that will permit the selected trees to develop to their full potential. Precommercial thinning, as this is called, also permits use of all the trees that are cut out, utilizing the new stand for wood products within a period of 10 to 20 years.

Today the progressive logger does not cut out and get out, but promotes new growth. In addition, industry does not rely entirely on the clearcut method of logging. It also uses selective cutting methods, and reseeds, plants and fertilizes all its forests by the most modern techniques, from hand planting to aerial methods, where it finds ways to carry on tree farming by helicopter.

Most of industry-owned forestlands are tended under good multiple-use forest management programs, but many other private timberlands did not have this advantage until three decades ago. The American Forest Institute since 1946 has sponsored the American Tree Farm System, which now has more than 31,500 members in nearly every state. These members include timberland owners, as well as representatives of the forest industries. The program helps individual owners develop management programs on their own land. And managed forests are sources of many potential benefits to man.

Some who still feel it is a "sin to fell a tree," ask why synthetic materials are not used in place of wood in many products, and why more recycling of paper products is not the answer.

More energy needed

To begin with, synthetic materials are being used, but it has also been found that in many cases the manufacturing of these materials consumes more energy and emits more polluting agents than wood. Recycling of paper products has been accomplished by the pulp and paper industries for years, but in each recycling many of the qualities of the original papers are lost and new pulp has to be used in combination with the recycled materials to produce the needed strength.

To meet the market demands of tomorrow for timber, forest management will have to reach even further. It is becoming essential that all forestland owners invest more heavily in regeneration of forests to produce more and better trees per acre in a shorter period of time.

In the South, where a third generation forest is in the process of developing, a "Third Forest" program is now under way. Industry holdings constitute only 20 percent of the South's commercial lands, and National Forest lands for commercial logging comprise only 10 percent of these timberlands. Seventy percent is owned by over 1 million non-industrial private individuals, mostly in small tree tracts.

MECHANIZING FORESTRY—*Huge machines do the work that man used to do by hand in many forest operations. This one is stacking logs that will eventually become a wood or wood pulp product.*

The "Third Forest Program" sponsored by public and private interests, gives these small owners the incentives and help they need to practice wise forest management. It has been said by AFI that an increase of only 1 percent in the number of tree farms in the South could produce enough additional wood to construct 3,000 new homes per year. The goal of the "Third Forest Program" is to double timber growth in the South.

Foresters insist the United States could triple its production from present lands, at the same time improving the health of the forests, with wise forest management.

Weyerhaeuser Company practices what it calls High Yield Forestry. Norton Clapp, Chairman of Weyerhaeuser Company, is also Chairman of NIPCC's Wood Products Sub-Council. He said that "in High Yield Forestry, harvesting isn't the end. It's the beginning."

Clapp stresses that High Yield Forestry isn't just one or two things done differently. It's a concept developed into a system.

AWE-INSPIRING—*Scenes, such as this, have long been part of American heritage. Industry wants to keep it that way. Today the progressive logger doesn't cut and get out, but promotes new growth.*

The key elements of that system are:

- Clean logging to remove all usable wood and clear the land for the next crop.
- Preparing the ground after harvest. Slash and debris are removed when necessary.
- Growing seedlings in tree nurseries. All told, Weyerhaeuser has close to 150 million seedlings in nurseries in the U.S. Grown from seeds taken from cones from superior trees, each seedling, when one to three years old, is returned to a site of the same elevation from which its parent came.
- Planting the new crop, either by hand or machine, depending on the site. In some cases, aerial seeding is used.
- Using controlled fertilization about every five years to assure rapid growth.
- Thinning of trees to provide space for more rapidly growing ones.
- Harvesting of the mature crop in order to begin the cycle all over. Again, like wheat or corn, the trees are harvested in a block. This provides harvesting with the least waste of fiber and also permits reforestation with strong stock that grows best in full sunlight.

And, throughout the entire cycle, Weyerhaeuser foresters are engaged in fire prevention, aerial surveillance to maintain growth study programs, road building and maintenance, as well as watching for tree diseases.

"In the South," said Clapp, "the seedling-to-harvest cycle has been reduced to 25 to 30 years.

"And," he added, "in the Douglas fir region of the Pacific Northwest we have reduced the cycle from 80 to 100 years down to 45 to 60 years."

In the meantime, as well, Weyerhaeuser opens its forestlands for recreation, hunting, and scenic viewing, wherever no cutting is being done and conditions are safe for the public.

Bohemia Lumber Company, Inc., Sanders Lumber Company, the Pacific Lumber Company, Southwest Forest Industries, Inc., and other wood products industries with an interest in American forests practice good multiple-use management programs, and work not only for the growth of timberlands but for the conservation of America's traditionally beautiful forestlands.

More trees per acre also means keeping America green while working to supply it with its log needs in the future. And, industry is committed.

Keynote To Metrication For Glass Industry Lies In Technical Policy Review

Reasonable Phasing Schedule Will Be Needed If Transition To Be Smooth, Says Engineer

This is another in the series Commerce Today *is publishing on the impact expected on various industries should the nation eventually convert its present measurement system to metric. It is excerpted from a paper prepared for the recent University of California conference on the "Impact of Metric Change-over on Packaging and Allied Industries" at San Francisco by Dr. John M. Sharf, Research Director, Glass Container Manufacturers Institute, Washington, D.C.*

The glass container industry has a very definite technical policy of continuing enlightened review and consideration especially the cross fertilization of ideas between it and those utilizing glass packaging. We believe this should be the key note as we get on with this potential change in measurement.

The glass container is in a very competitive scene, this ubiquitous packaging. Each type of packaging has its own merits and sometimes a few limitations. Of course, as suppliers we are subject to the needs of those served such as packers of food, drugs, pharmaceuticals, proprietaries, cosmetics, beverages, and the like. Each may have a particular set of specifications and performance requirements. Foremost, in many of these areas is merchandising, the movement of the product to the ultimate user in ideal condition and in a manner that is more appealing to him. There is often need for definite portions calibration for dosage, handling utility, or even the distribution by a coin-operated bottle dispenser.

In light of the consumer movement going on in the United States, and with the weights and measures people as precise as they are, there is much to be done concerning uniformity, honesty and obvious detail in packaging.

What is an adequate change-over period in this packaging industry, especially the manufacture of glass containers, related to the requirements of the packers served? Will it be 10 years, or 15? This is difficult to predict. Consider a few insights into this industry as a trend indicator. Many labels do show capacity or weight in both the customary and the metric units. In this detail, packaging is probably no different than other consumer goods.

GLASS CONTAINER PRODUCTION—*The critical and difficult period in container production will be phasing in the metric and phasing out the customary measurement system, a potential era of cost and confusion, especially in tooling.*

In the balance are cost considerations, some confusing situation in labeling, and the various merchandising complications noted earlier.

The critical and difficult period will be phasing in the metric and phasing out the customary system, a potential era of cost and confusion, especially in tooling and also in the floats of product in warehouses and that unique package—the returnable bottle. A returnable beverage bottle may continue to do duty for ten or twenty years in the float and just the other day one appeared with the date 1947. It was scruffy, grimy, not an ideal appearing package, but it had worked for all those years; it finally went out of service for someone dropped it. On the bottle was a blown in designation of the capacity — 12 fluid ounces. Can the bottler adapt an embossed mark of 12 fluid ounces by simply attaching a sticker giving the fraction of a liter? Also, there are applied color labels with extensive detail not readily corrected in the applied color but only by the additional expense of applying an additional label.

If the bottles are changed to even increments of the liter, there arise complications in a wrap pack, say a six-pack. Because a tight carrier of paper is based upon the combination girth either vertically or horizontally of that series of containers and if it is not tight, bottles may fall off; if too tight the carrier or wrap may tear and fail. In these six-packs, in groups fit into trays, single bottles may go into wooden or plastic cases. These in turn are loaded onto pallets which to be efficient should be of matching size. Truck drivers hate to lose loading area and cannot accommodate overhangs. Truck bodies in the soft drink field are designed to take exact dimensional combination; also there is the concern as to a tight, non-shifting load, in a rail car or long distance hauling truck to prevent damage to the shipment.

Now consider some of the mechanical engineering complications in manufacturing plants. Glass in one form or another is one of the most widely distributed materials of the earth. Most easily recognized in volcanic rock, obsidian or other earth, fused during the days of molten formation. Glass, the material long known, long used, versatile in character, is prepared by combining some of the common earth materials, sand and limestone, fluxed with soda ash (there are natural deposits of soda ash in Wyoming). The limestone improves the glass resistance to water and may improve the mechanical forming characteristics. Often to these three ingredients are added small amounts of color promoting or control substances.

Melted at temperatures of around 2800 degrees F. followed by a fining or quieting period to remove bubbles, the glass flows down a secondary arm that looks like a large masonry rain spout. From this a piece of glass called a gob is sheared and fed into the forming machine. The glass is fluid and white hot, somewhere around 1800-2000 degrees F. The machine clamps the gob in the shape of an oversized cough drop and pokes a hole in it with a metal plunger. This is exactly what

the manual skilled glass blower does. He gathers glass on the end of a hollow tube, puffs it a bit to start the opening then accommodates the loss of heat and gain in the viscosity or stiffness of the glass by swinging in the air or rolling against a metal plate and ultimately chilling to final shape in an applewood mold, wet with water.

Forming machine

Today the forming machine takes this gob of glass, pokes the hole in it, forms a preliminary shape, pulls the preliminary mold away from it, allows it to stand a fraction of a second to normalize the thermal differences, swings it over to a large final cast iron mold often weighing several hundred pounds. The mass of the mold acts as a leveling or a thermal reservoir unit that allows removal of the heat out of the glass without chilling so fast that it cracks or leaving parts of the piece in a flexible condition, so that the bottle is of final precise shape as it leaves the machine. There are precise limits on capacity of many of these bottles and the molds.

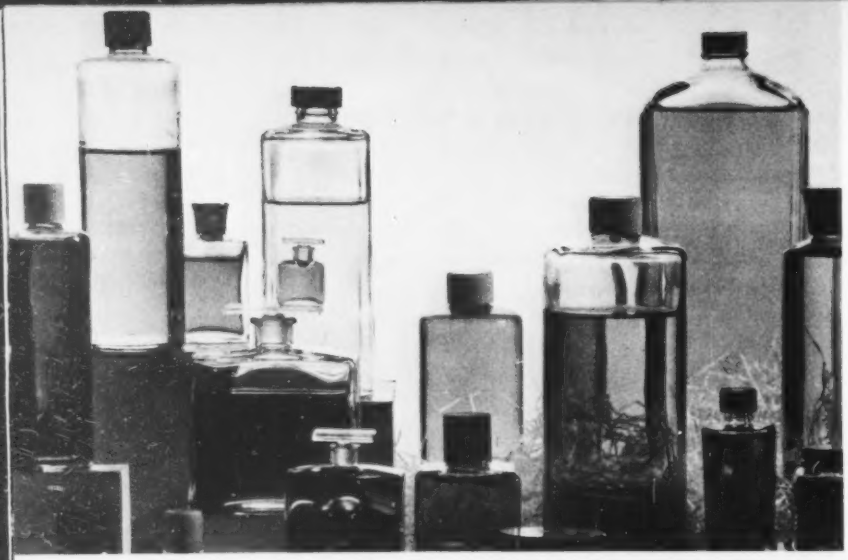
These molds have to close, lock and resist glass pressure while holding mechanical alignment usually within three to four thousandths of an inch, about the thickness of a sheet of paper. A typical mold set runs about $2,500 for a soft drink bottle. If a machine has six working stations, it is common practice to make a set of eight or nine mold units, some of them being spares. The first combination consists of the parison (preliminary) mold with a neck ring which wears out a bit faster because it makes the end of the bottle, often called the finish. The old hand operator completed the bottle, as he shaped the opening so it has been known as the finish. Today the opening and threads are formed first because the hottest glass is easier to shape. Then the partially formed shape goes to the final mold, fitted with a bottom plate that carries the indicia that identifies the manufacturer, the year of production and perhaps the design number. These molds have been made on a contour lathe or a profile transfer machine, a relatively complicated device. A lathe may read either way, metric or inch, and a transfer machine works from model independent of either measuring system.

The industry is tantalizingly close on many of the capacities of current bottles as for example a pint vs. half liter or quart vs. liter, usually 5 to 6 percent short. Can the glass maker increase the capacity of a mold? Yes, but there is risk of changing the exterior contour. Can some glass be removed from the bottle to increase capacity? This is not advisable because it causes marked design change, and due to difference in density, 2½ oz. of glass must be removed to increase the capacity of a given shape by one fluid ounce. Therefore, only modest upward capacity changes may be made. Remember also, the typical bottle has about 5 percent head space. There must be a minimum of one and a half to 2 percent because that's what water or water-based products expand as they go through the normal handling range from 40 degrees up to say 120 degrees F. In addition, there are variations in the drip or the unloading characteristics of a filler tube to be taken into account, if no allowance is provided, experts from weights and measures agencies will soon find that on the average products may be running less than 2 percent under the indicated content and there may be excursions that are 3 to 4 percent short. This can lead to a product embargo.

Specific design

Downward change is not easy in capacity, for shaving the bottom of the so-called body mold isn't good practice. Thus, in the long term, consideration must be given to specific design, exact weight, good contour, distribution of glass all related to capacity. Every plant recognizes that molds are expensive and must be written off in adequate service life. In the industry are approximately 210 standard prints of general bottle shapes, or designs, finishes, threads and the other opening details. It would take years to rework those 210 because, in general, they will not exactly translate in dimensions from inches to round metric numbers. Related closures may not necessarily be manufactured by the same firms making the bottles, so there will be problems of interpretation. Closures may be metal or molded plastic. The metal are customarily formed by stamping from a large flat sheet lithographed for detail and aligned with a punch-press, to cut out a disc or blank, which is then cupped, has a bead turned on the edge and then threaded in precisely contoured ring roll.

To go to round metric dimensions, all of these tools would probably have to be changed. Such a thread-tool assembly is worth at least a thousand dollars. Molded plastic caps require massive steel mold sets to withstand the high forming pressure dur-



CONSUMER PACKAGING—*In light of the consumer movement going on in the U.S., and with the weights and measures people as precise as they are, there is much to be done concerning uniformity, honesty and obvious detail in packaging.*

ing the injection or compression of the plastic. Compression molding generally uses a rotary machine having multiple cavities, each unit of which costs several hundred dollars. Injection molding differs because the slower cycle requires a massive multiple mounting plate system in which, for example, may be 48 specific individual molds precisely finished to interior and exterior profile of the plastic cap. These closures have threads on them, so this mechanical assembly must have a cap unscrewing back a relatively complicated device. The mounting plates with unscrewing backs often cost upwards of $30 thousand. Within a reasonable range these mounting plates should accommodate tools of either metric or customary dimension.

Again, one must recognize the need for coherence in components as we work toward the metric system. Many closures have been specified in millimeter sizes from 8 to 89 mm. because these round figures have been more readily remembered than odd values of fractional inch. Yet the functional dimensions of these "millimeter" closures are really not rounded off to exact metric values since there has always been an accommodation to the convenient inch of the tool maker. Obviously then some revision would be needed here during a "phase in."

There will be more complication as the engineer goes to plants to control and evaluate efficiencies of these behemouth glass melting furnaces. These are known as the Siemens regenerative type of furnace designed to economize the very high temperatures by a re-heat of combustion air for the gas flames. Heat input is rated in BTU's. Melting is rated in number of square feet necessary in the furnace to deliver a ton of fluid glass and so on. It may take half a generation of engineers to learn a new engineering detail.

We engineers have a sort of romance with hand books and the dictionary. So I dug around in the dictionary, and to add a little levity let me cite that Webster in his latest collegiate version says, "metric, is a part of a prosody that deals with metrical structure." Prosody, what is that? So I looked it up and found it's taken from the Greek, primarily a song sung to instrumental music. Some will say that's the song of the Lorelei, the Government taking us on to the rocks on the turn of the river Rhine.

We are dealing with a tyranny of numbers in the decimal system, which is based on adding a zero to go upward in decades. Actually when I say I want ten items I really just want the count of the fingers on my two hands. If we had 6 fingers on each hand, this span would have been a dozen and this has advantage in packaging. I say this because 12 is a more versatile number, and provides a well rounded series of multiples. That is, one divides evenly, two goes in six times, three goes four, four goes in three times, five doesn't, six goes in twice, and so on. This allows combination of bottles in a pack in minimum space and best use of wraps. In comparison the base of ten allows only one combination of bottles, that of 5 by 2, as an efficient wrap. The present six-pack would likely become a five-in-line which could be hard on the metric system beer drinker because a six pack is just about right for baseball games.

Industry may have troubles in talking twenties of four by five in a case or thirties which is six by five, both found in Europe. Even in metric countries some shopping shows, for example, fractured German of a "Dutzen," for items in our dozen. They also have a word "Pfund" which is a half kilo and is very close to our pound. When referring to export they will use the term "Zoll" which might in the past have been a Prussian inch, or by inference it could be an American inch, and so on. There are modifications which accommodate trade practices. I'm sure that American industry can take care of these details of transition if a reasonable "phase-out," "phase-in" time schedule is provided. So in due course, let's get on with the job, to join the rest of the world.

DOMESTIC BUSINESS REPORT

- **Textile imports continuing rise**
- **Industry plans include conservation**
- **More students getting diplomas**
- **Bilingual survey quizzing hotels, motels**

Textile Import Data Show Continued Rise

New data from the Commerce Department show textile imports continuing to rise.

In fact, man-made fiber, cotton and wool textile imports in October totalled 567 million square yards equivalent, 9 percent above the September level and 50 percent above the level in October 1971.

The cumulative total of these imports in the January-October period totalled 5,458 million yards, 8 percent more than in the same months of 1971. The Fall 1971 dock strike resulted in an abnormally low level of imports in October 1971. Therefore, imports in October 1972, when compared with imports for the same month of 1971, appear artificially high.

Compared with the first ten months of 1971, imports of made-up and miscellaneous goods increased 15 percent, fabric 13 percent, apparel 9 percent and yarn 3 percent.

Imports of man-made fiber, cotton and wool textiles from Japan, Hong Kong, and the Republics of China and Korea in the January-October period, were 7 percent less than last year, reflecting declines of 14 percent in man-made fiber textiles and 8 percent in wool textile imports. Cotton textile imports from these countries were 17 percent greater than the January-October period of last year. For the month of October these imports from the four Far Eastern countries were 23 percent greater than the previous October levels.

Textile Manufactures: United States General Imports, Exports And Balance Of Trade

January-October 1971 and 1972

(Million Dollars)

	Imports		Exports		Trade Balance	
	1972	1971	1972	1971	1972	1971
Man-Made Fiber	1,447.0	1,289.2	348.8	317.1	−1,098.2	− 972.1
Cotton	690.0	491.2	337.3	241.0	− 352.7	− 249.3
Wool	251.4	244.5	11.2	10.1	− 240.2	− 234.4
Total Above	2,388.4	2,025.0	697.3	569.0	−1,691.1	−1,456.0
Other Textiles	297.0	267.7	72.4	64.5	− 224.6	− 203.2
Total All Textiles	2,685.4	2,292.7	769.8	633.5	−1,915.6	−1,659.2

*Excludes man-made fiber filaments, linoleum, rubber and leather apparel, and clothing donated for charity.

The value of textile imports of man-made fiber, cotton and wool in the first ten months of 1972 was $2,388 million and exports in the same period were valued at $697 million. The trade deficit of $1,691 million was 16 percent more than in the same months of 1971 when imports were valued at $2,025 million and exports at $569 million.

AMERICA'S LANDSCAPES—*Wilderness beauty, such as this, is not being destroyed. Millions of acres have been set aside nationwide to keep America beautiful. And industry has given priority to conservation, including the restoration of lands it has had to scar to obtain its raw materials and beautification of its surroundings.*

Firms' Natural Beauty Pledge: "No One Will Even Know That An Industry Was Located Here"

Conservation is an important part of industry's environmental actions.

In fact, Bert S. Cross, chairman of the National Industrial Pollution Control Council said, "The environmental challenge cannot be confined to the blast furnace, the internal combustion engine, the atomic reactor, the industrial incinerator, the municipal treatment plant, the runoff of animal waste from our farms or the waste in a household garbage pail."

Edwin L. Jones, Jr., president of J. A. Jones Construction Company, Charlotte, N.C., is known to have said, "If we in the construction business were asked by our neighbors, 'Are you ecologists?' or, 'Are you in sympathy with the ecological movement?', many of us would be quick to deny it. We might even feel uneasy, somehow associating this term with youthful revolution, with hippies, with long hair, with protest marches, and maybe even somehow with everything that's wrong in our world today.

"Had the same individual asked us, 'Are you conservationists?', then our reply would have been different."

Mining companies nationwide are spending time and effort to restore and reclaim lands which have been stripped by their mining operations.

In California and the Southwest, for instance, Utah International Inc. has been working on this problem and began its restoration program in Wyoming long before a Wyoming land restoration law was enacted. At its mine in Shirley Basin, spoil dumps will be contoured similarly to the existing topography.

Its work in this field doesn't stop at this point, either. A pilot program has been instituted to test growth of several types of native grasses on reclaimed waste material. The company has entered into a cooperative agreement with the U.S. Soil Conservation Service on this plan and is receiving assistance from this agency. To date, an area of more than 35 acres in the waste dump has been contoured and planted. All areas being tested have shown promising growth.

Strip mine program

In Utah, Utah International operates an alluvium plant which recovers magnetic iron ore and produces an earthy, gravel type waste product. The waste piles resemble the waste piles from a typical coal strip mine. The company has a continuing program there of leveling these piles in order that natural vegetation may grow, and attempts have been made—in conjunction with the Bureau of Land Management, to seed new types of grasses.

Burlington Northern is reclaiming some 700 acres of its strip mined coal lands in Montana. Expenditures of $75,000 in 1971, $100,000 in 1972, and proposed

CONSERVATIONISTS?—*Industry's answer to this is "yes" and corporations nationwide are proving it with time, money and effort for restoration and preservation of America's nature scenes.*

$125,000 in 1973 are planned for the operation of this project. Spoil banks are contoured and seeded. Trees and shrubs are planted. Future plans also call for a recreational lake which will provide food, habitat, water and protection to various forms of wildlife. The project is designed to maintain and enhance water, soil, and air quality, as well as preserve and restore the area to its natural state. And this is only one such program of this type undertaken by Burlington Northern.

In West Virginia, Consolidation Coal Company has begun growth of trees and grasses on what used to be a sludge pond at the Itmann Coal Co., operated by Consol at Itmann. Plans call for revegetating the rest of this seven-acre plot —probably with grasses.

Reclamation program

At Consol's Hanna Division, work is in process to put approximately 5,000 acres of its reclaimed land—most of which is seeded to crownvetch, a hardy legume—to good use. It is acquiring an outstanding herd of registered polled Herefords in a move designed to upgrade the beef cattle breeding stock of eastern Ohio and to utilize the pasture that the company has available.

American Metal Climax, Inc. is conducting a complete experiment in ecology. Included in the company's experiment is a restoration program. In clearing the land for mining and milling operations and access roads, AMAX has taken great care to see that trees would only be cut where necessary. And rather than piling and burning all of the trees from necessary clearing, the company sought and found uses for much of the timber.

Slopes and banks disturbed by road cuts and other construction activities are stabilized by revegetating techniques, including the use of a truck-mounted hydromulcher that throws a mixture of water, mulch fiber, seed, and fertilizer onto the soil. In addition, to continue this concept of minimizing the environmental impact, AMAX is even applying green stain to its wood transmission poles and limited right-of-way clearing of trees has been used by the Public Service Company of Colorado for power lines to its Henderson project.

Reclamation projects are becoming a way of life to the Hanna Mining Company. At its Butler Taconite Minnestoa operations, tailings pond reclamation work is continuing as inactive areas become available. For instance, in May of this year, 40 acres of the emergency pond and 26 acres of the initial pond were seeded and approximately 12,000 trees planted. At National Taconite in Minnesota, 40 acres of the emergency pond and 40 acres of the initial pond were seeded and approximately 10,000 trees planted.

In Groveland, Mich., mine operations, Hanna is continuing testing to establish the proper grasses, legumes and tree plantings for reclamation of the tailings disposal area. Planting and seeding of inactive portions of the disposal area will commence and continue as inactive areas become available.

Power companies are also heavily involved in conservation and restoration activities. For example, Montana Power Company reports that strip mine land reclamation on their coal properties is expanding. The company notes that the Montana State University Agricultural Experiment Station research as to land reparation and planting has developed processes suitable for wide spread reclamation. Larger areas are now being reclaimed and will be maintained with the mining program.

Outdoor study area

Other progress in this field is noted with the dedication of a 98-acre tract of Montana Power Company land as an outdoor study area. The Soil Conservation District of Cascade County in Montana will administer the native area for use by conservation classes and individuals. The power company has also landscaped, installed decorative fencing and provided special painting at some of their substations.

The Scott Paper Company also

TUNDRA RESTORATION—*A "winter survival test" proved that Red Top, the successful seed that produced the above growth, can grow in abundance on disturbed tundra. The experiment was conducted on the North Slope of Alaska. It is one of four successful seed varieties that will be used by industry in tundra restoration.*

CAMPERS' PARADISE—*Industry gives thousands of acres for the use of campers, hikers, and hunters. For instance, 3M Company donated some 650 acres of heavily wooded land to Somerset County Park Commission in New Jersey last year.*

promotes public use of its private timberlands in the State of Maine. Scott forests and company-built roads are open to the public for hunting, fishing and recreational use, except in areas where tree harvesting and logging crews are operating.

By continuing to share its lands for public enjoyment and at the same time harvesting trees as a renewable crop, Scott Paper serves a dual economic and social role which benefits both present and future generations through maximum use of its forest resources.

In fact, a company gift to the state of more than 800 acres on Moosehead Lake has resulted in the development of one of Maine's finest state parks at Lily Bay.

The 3M Company is doing its share. Some 650 acres of heavily wooded land interspersed with open fields at Belle Mead, N.J., owned by the company, was donated to the Somerset County Park Commission last year to effectively begin establishment of the Sourland Mountain Preserve, which will include a natural wildlife area, scenic trail to Roaring Brook, family recreational sites, camping facilities and winter sports accommodations.

This was followed with a gift by 3M of nearly 8 acres of land in Alexandria, Minn. to be used as the site for a new student center and for other educational and recreational facilities.

Unspoiled shoreline

Mention should be made of the more than 70 miles of shoreline on both sides of the St. Croix River, owned by the Northern States Power Company of Minnesota, and preserved by that company unspoiled for more than 50 years. In 1970 NSP deeded 25,000 acres of this land to the Federal Government and to the states of Minnesota and Wisconsin. Until this transaction is completed, NSP is continuing its stewardship.

This wilderness area will be included in the Wild and Scenic Rivers Program for the use of the public. NSP has given or transferred to various local governments an additional 4,000 acres of land suitable for public recreational use.

Recreational facilities

And adding to the aesthetic and recreational aspects of the environment is Union Camp Corporation, which has developed together with public agencies many choice sites for hunting, fishing and picnicking. The corporation also helps to administer the use of these lands by thousands of recreationists.

All of these industries are represented on the National Industrial Pollution Control Council by their top executives—either serving directly on the Council itself, or as a member of one of its Sub-Councils.

A former member of the NIPCC Leisure Sub-Council is Stuart G. Cross, Chairman of the Board of Yosemite Park and Curry Company. Cross says his company has been and will continue to be active in its concern for the preservation of the particularly beautiful environment of Yosemite National Park.

For example, within the last few years this company has inaugurated a policy of specifying the use of liquid petroleum gas as the fuel for all of its in-park sightseeing vehicles, and has been in the process of converting its fleet of maintenance vehicles to the same propellant in order to reduce the quantity of automotive fumes on the floor of Yosemite Valley.

Conservation and restoration programs of other NIPCC members are too numerous to mention. However, one thing is evident—industry is committed to this type of environmental clean up as well. —*National Industrial Pollution Control Council*

More High School Grads Suburban Dwellers Today

Businessmen can expect to hire more young workers with a higher education than ever before, according to a Census Bureau report on educational attainment of the U.S. population.

The report, based on a national survey completed in March of this year by the Bureau (part of the Commerce Department's Social and Economic Statistics Administration), show that 58 percent of all Americans 25 years old and over have completed at least a high school education. This is a jump from 33 percent in 1947, and 50 percent in 1966.

More school days

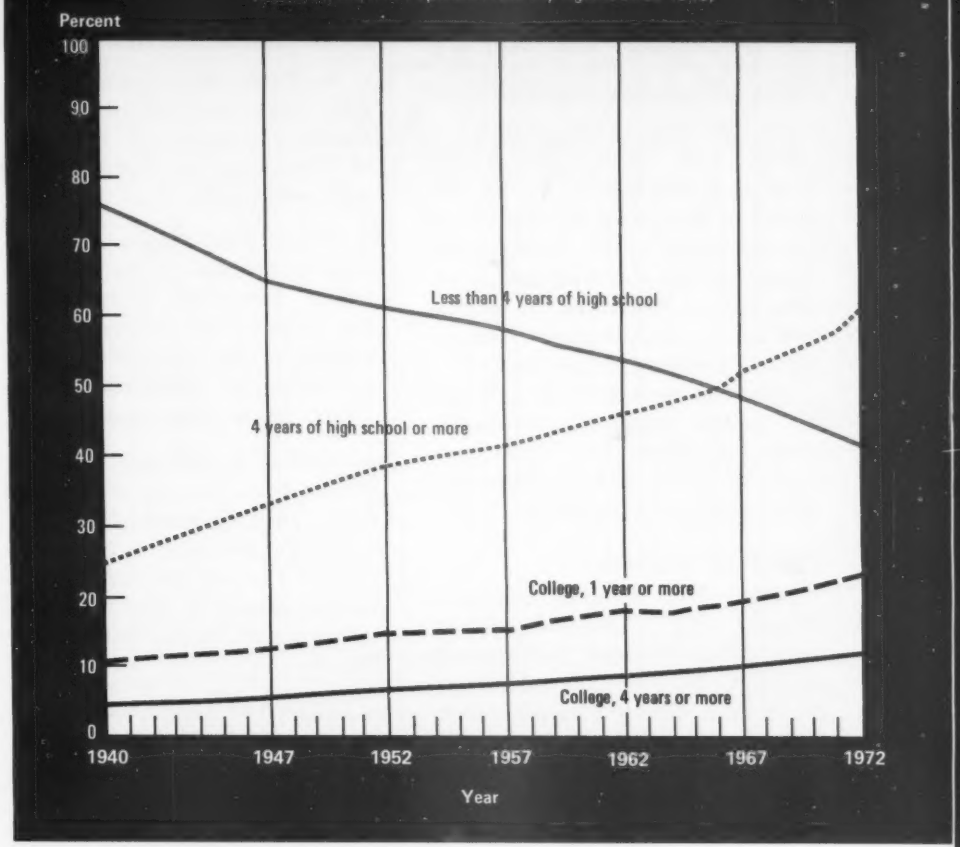
The steadily rising educational attainment of the American population has occurred because young persons have been staying in school longer, and less well-educated persons at the upper end of the age distribution have been replaced by those who are better educated.

The report, however, does point out considerable differences in the length of schooling among the population according to the area in which it lives. In metropolitan areas, the percentage with diplomas from high school was 62, compared with 50 in nonmetropolitan areas.

And within metropolitan areas, those living in the suburbs were more likely to have finished high school (66 percent) than those in central cities (57 percent). The suburban figure includes 39 percent with exactly four years of high school, 13 percent with one to three years of college, and 15 percent with 4 or more years of college. Inside central cities, the breakdown is 33 percent with four years of high school, 11 percent with 1 to 3 years of college, and 13 percent with four or more years of college.

Years of School Completed by Persons 25 Years Old and Over: 1940 to 1972

(Based on Current Population Survey figures since 1940)



The influence of younger people on the overall educational attainment figure can be seen by comparing years of school completed by people 20-24 years of age with the school attainment of those 25 and over. Among whites in the younger age bracket, 85 percent had at least a high school education, compared with 60 percent of those 25 or more. Among blacks, 66 percent of those 20-24 were high school graduates, compared with only 37 percent 25 and over.

The report also shows these characteristics of the population aged 25 and over with high school diplomas:

- 61 percent stopped their formal schooling at graduation from high school.
- 93 percent were white, 7 percent were of other races.
- 73 percent lived in metropolitan areas, 27 percent in nonmetropolitan areas.
- 53 percent were women and 47 percent of this group were men.

The 1972 survey, as with earlier surveys, showed the relationship between income and educational attainment. Among men 25 to 64—the prime working years — one-third who had not completed high school had incomes in 1971 of less than $6,000, while only 13 percent of high school graduates were at this income level.

At the other end of the scale, only 6 percent of men who had not completed high school had incomes of $15,000 and over, compared with 22 percent of high school graduates, and 43 percent of college graduates.

Copies of the report, *Educational Attainment: March 1972*, Series P-20, No. 243, are available for 65 cents from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, or from Commerce Department field offices in major cities.

—Census Bureau

Hotels, Motels Subject Of Bilingual Census By Government, Industry

Foreign language capabilities of hotels and motels discovered through a new census will be publicized to foreign travel agents and tour operators by the United States Travel Service travel promotion offices abroad, according to spokesmen for the organizations sponsoring the nationwide inventory.

The new census of U.S. hotels and motels with bilingual public contact personnel is being sponsored by USTS and the American Hotel & Motel Association.

Program expands

"This latest language capability survey," said C. Langhorne Washburn, Acting Assistant Secretary of Commerce for Tourism, and George D. Johnson, Senior Vice President, ITT Sheraton Corp. of America and President of AH&MA, "stems from a decision to expand the three-year-old Hotel-Motel Language Certification Program."

Under that Program, Washburn advised, USTS offices will publicize the language resources of U.S. lodging establishments which staff their respective switchboards, reception desks and restaurants during regular business hours with personnel speaking Spanish, French, English and either German or Japanese.

Multi-language capabilities of 217 hotels and motels in 80 U.S. cities are now so publicized, the USTS head pointed out.

After the new inventory is completed, the lenguage resources of properties employing switchboard, reception and restaurant personnel fluent in either Spanish, French, German, Japanese or Italian and English will also be reported to foreign travel agents.

Qualifying hotels will be publicized only in those markets whose language requirements are compatible with their resources.

Initial certification program was launched to enable the foreign travel agent with a VISIT USA clientele to identify U.S. lodging establishments with personnel fluent in the language of his clients.

—United States Travel Service

Ombudsman For Business

Businessmen who need assistance in their dealings with the Federal Government now have a central office in Washington, D.C., to write or call for information, suggestions, or even for registering complaints—the Commerce Department Ombudsman for Business.

All inquiries should be addressed to the Ombudsman, Thomas E. Drumm, Jr., Special Assistant to the Secretary, U.S. Department of Commerce, Washington, D.C. 20230, or call 202-967-3178.

Calendar For Businessmen

Jan. 6—Bath, Me.—Launching of EXPORT PATRIOT. Robert J. Blackwell, Assistant Secretary of Commerce for Maritime Affairs will speak.

Jan. 7-10 — New York — 62nd annual convention of the National Retail Merchants Association. For information, Convention Coordinator, the Association, 100 West 31st St., New York, N.Y., 10001. Phone: 212-244-8780.

Jan. 8-12 — Washington, D.C. — First Low Income Consumer Conference, sponsored by Neighborhood Consumer Information Center. For information, Joseph Smith, executive director, 3005 Georgia Ave., N.W., Washington, D.C.

Jan. 11-13—Los Angeles—National Association of Minority Certified Public Accounting Firms, seminar. For information, Lawrence McClenny, executive director, 1101 17th St., Suite 307, Washington, D.C.

Jan. 11-13—Los Angeles—National Association of Minority CPA Firms, Seminar. For information, contact Larry McClenney, 202-659-4153.

Jan. 18 — Memphis — Wage-Price Seminar, sponsored by College of Business Administration, Memphis State University.

Jan. 18—Cleveland, Ohio—National Maritime Council Unity Dinner. Assistant Secretary Robert J. Blackwell will speak.

Jan. 26—San Francisco—Annual meeting of Western Shipbuilding Association.

March 14-16—Chicago—Industrial Water And Pollution Conference and Exposition, sponsored by the Water and Wastewater Equipment Manufacturers Association. For information, contact WWEMA, 744 Broad St., Newark, N.J., 07102.

Note For Federal Contractors

The Viet-Nam Era Veterans Assistance Act of 1972 requires Federal contractors and first-tier subcontractors to list job openings with the United States Employment Service.

The primary purpose of this Executive Order is to expand the job opportunities that the Employment Service can make available to Viet-Nam-era veterans.

Business firms that are affected by this directive can make a significant contribution to the Jobs for Veterans Program through voluntary support and implementation of the order's specifications.

Full details of the Executive Order can be obtained by contacting the nearest Employment Service or Regional Manpower Administration office.

SCIENCE & TECHNOLOGY REPORT

- **Scientists detect cancer first time by nuclear device**
- **Bird identification by radar seen helping airport safety**
- **Expert teams solve knotty ecology problems**
- **Licensing proposals considered at Geneva**
- **Patents of special interest**

Sea Bottom Probe To Aid Offshore Design

Knowledge of what happened 15,000 years ago may help engineers design offshore structures such as atomic plants, floating airports, and platforms for giant oil tankers.

The sea bottom near the Atlantic coast is characterized by ridges of sand, up to 30 feet high, about two miles apart, and extending far into the ocean.

Are these ridges the ancient remnants of a shoreline which existed during the period of rising sea level that started about 15 millenia ago? Or were they formed by storms, and then became stabilized as the shoreline receded inland when the glaciers which had engulfed a good part of North America melted?

Engineers must know the answers to these and similar questions regarding sea floor sediments before they can design offshore structures, because a knowledge of the stability, or instability, of the sea bottom is essential to a firm anchoring of these structures and to their ability to withstand storms at sea. Recently, a report by the Maritime Administration recommended the construction of huge floating platforms outside Delaware Bay and off the Louisiana coast to handle oil supertankers.

Dr. Donald J. P. Swift, of Miami, Fla., has spent the past four years studying this problem. Based on his studies, he designed and coordinated an experiment conducted recently off False Cape, Va., which may provide some of the answers to the problem facing engineers.

Submerged ridge

During the past year, Swift has been researching the problem for the Atlantic Oceanographic and Meteorological Laboratories, a Miami-based facility of Commerce's National Oceanic and Atmospheric Administration. For the three years prior to that he conducted research of a submerged sand ridge off False Cape, near the Virginia-North Carolina border, for Old Dominion University, Norfolk, Va.

Swift's experiment is designed to test his theory that the sand ridges along the submerged continental shelf out to 10 to 15 miles from the shore resulted from storm-created ocean currents.

Swift said his studies suggest that "ridges are presently forming as a response to storm currents on the inner shelf just seaward of the shore and that ridges on the rest of the shelf were similarly formed, but have since been abandoned by the retreating shoreline." The NOAA scientists said the Virginia shoreline some 15,000 years ago was perhaps 90 miles further east.

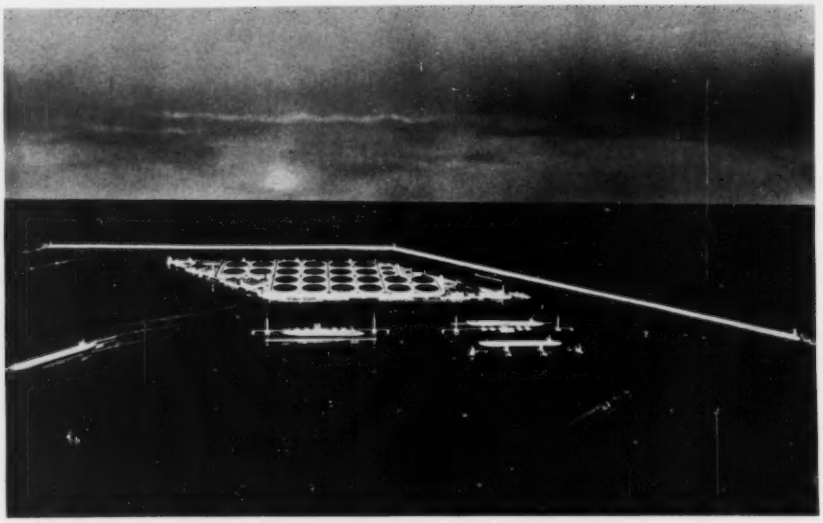
"The ridges may in some respects be analogous to dunes on a desert," he added, "although it is not clear how far offshore they continue to be active and shift their position." Thus, like the winds which create shifting dunes in the desert, marine currents may also form shifting dunes below the sea's surface.

The experiment was completed in late November, and the data are now being processed. When this is completed, some of the answers may be forthcoming.

Cooperating in the False Cape experiment were three NOAA agencies — the Atlantic Oceanographic and Meteorological Laboratories, National Ocean Survey, and National Weather Service; NASA; Old Dominion University's Institute of Oceanography; the Army Corps of Engineers' Coastal Engineering Research Center; Westinghouse Electric Corporation's Ocean Science Research Laboratory; and the Virginia Institute of Marine Science.

Dr. George H. Keller, Director of the Marine Geology and Geophysics Laboratory in Miami, discussing the experiment, stated:

"If the relationship between storms at sea and sand ridges can be established, then our understanding of the nature of shelf floor topography will be greatly improved and we will be better able to solve numerous pressing problems of environmental engineering relating to use of the sea floor."



DEEP WATER OIL TERMINAL—*Design of offshore structures such as this proposed North Atlantic deep water oil terminal as well as atomic plants, floating airports and cities may be assisted by scientific work under way to determine the nature of the sea bottom on which such structures will rest.*

Current velocities

The experiment involved a two-part attack on the problem. In one, three current meters were anchored on the sea bottom at depths of 40, 60, and 80 feet. They were placed in a trough between three major ridges. The meters were positioned in October by the NOAA Ship *Ferrel*. They were designed to furnish data on bottom current velocities. These meters were recovered by the *Ferrel* in late November, and their data are being analyzed by the National Ocean Survey's Oceanographic Division in Rockville, Md.

The second part of the experiment involved the use of four radar-equipped drogues dropped into the sea by NASA from a helicopter. The drogues, current-measuring assemblies consisting of a submarine sail area and an attached surface buoy, were equipped to furnish information on the speed and direction of currents on the surface and at six and 18 feet below. The drogues were dropped in a row from near the beach to a distance of 1½ miles from shore and tracked for up to six hours and up to five miles by NASA radar tracking equipment. The current speed and direction were determined by tracking and timing the surface buoys.

A dry run of the drogue experiment was held November 20 to evaluate the system and to establish the current's speed and direction. The winds proved sufficiently intense during the test to count as a storm run. Participants in the experiment were then placed on a "red alert" while they waited for additional foul weather conditions, with 30-knot gusts. This phase of the experiment was carried out November 24, 27 and 28 on the basis of weather furnished by the National Weather Service.

Moving sediments

Swift said the data obtained in the experiment will enable scientists to determine whether storms at sea cause ocean bottom sediments to move about the floor.

"We need answers to at least two questions," he added. "Is the bottom current during a storm strong enough to cause sediment to move? Is the current pattern of a nature which causes the moving sediment to form ridges?"

Swift thought the currents were sufficiently strong and of such a nature as to cause the sediments to be swept out of the troughs and obliquely up the ridges, generally with the same effect as desert storms, forming dunes or ridges.

Ancient beaches

He emphasized the significance of the experiment, whose results, he stressed, may be applicable elsewhere along the coast. If the ridges are ancient beaches, he points out, then there is little sediment movement on the sea floor; if they are active, dune-like features, then there is much.

"The issue is an important one," adds Swift, "because it involves solutions for the problems of waste disposal in the ocean and the protection of beaches against erosion, as well as building of offshore structures."

—*NOAA*

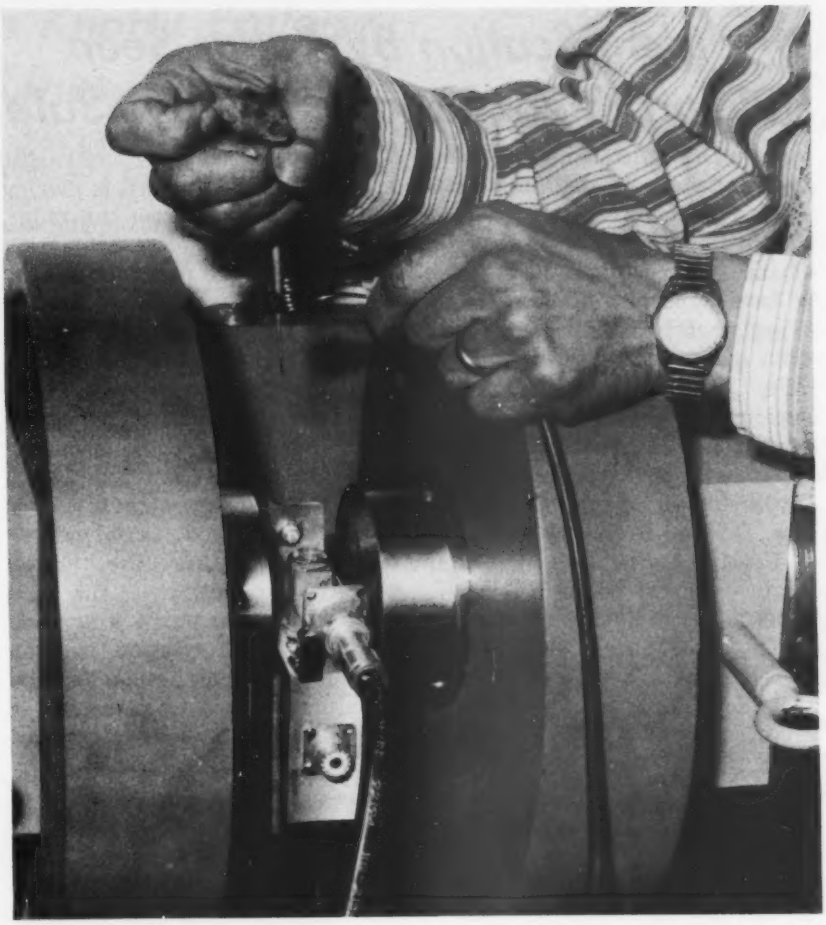
Scientists Detect Cancer First Time By Nuclear Device

Cancer has been detected in mice for the first time by a technique called nuclear magnetic resonance (NMR) holding promise that it may provide a safe, painless tool for the detection and monitoring of tumor growth in humans.

Scientists at Commerce's National Bureau of Standards have successfully detected differences between normal tissue and malignant tumor growth in mice.

NMR requires neither anesthesia nor surgery and provides almost immediate results. The studies were performed by NBS materials scientists Drs. Irwin D. Weisman and Lawrence H. Bennett in cooperation with Dr. Louis R. Maxwell, Sr., a physicist retired from the U.S. Naval Ordnance Laboratory, and Drs. Mark W. Woods and Dean Burk of the National Cancer Institute.

NMR was first discovered in 1945 by E. M. Purcell and F. Bloch who later shared the Nobel Prize for this work. It has now become a well established technique with applications in analytical chemistry and solid state physics. Materials are studied by utilizing the interaction of the magnetic moment of the nucleus with magnetic fields in the material. Nuclear magnetic moments behave like weak bar magnets. When the atoms are placed in a uniform, external magnetic field, the nuclear magnetic moments align themselves parallel to the external field. The moments can be rotated away from the field direction by applying radio-frequency energy at the resonance frequency.



CANCER DETECTION—*Placing a mouse's tail in a wire coil, scientists at the National Bureau of Standards are able, by means of a nuclear magnetic resonance technique, to detect cancer in the animal. It is expected that this painless, nonsurgical technique can eventually be used to detect human cancers.*

Spectrometer probe

In the NBS studies, measurements on protons in tissue water of the tail were made using a conventional pulsed NMR spectrometer. The mouse's tail was placed in a wire coil, which formed the spectrometer probe. The probe was situated between the pole faces of a laboratory d-c electromagnet.

Measurements taken over a period of time revealed the growth of the tumor, a transplanted malignant melanoma. A change from normal to malignant tissue was evident in the relative change of NMR signals associated with the tumor and normal tissue relaxation times.

Using magnets with larger sample space, experiments could be performed on other animals and even humans. Coils of different designs might be adapted to fit various parts of the body. If this technique can be developed and applied at a practical level, competent technicians should be able to test a patient in a matter of minutes. Perhaps NMR could take its place beside thermography and radiography as a nonsurgical technique for cancer detection and the analysis of cancer growth rates.

—*National Bureau of Standards*

Science Group To Hit Top Issues In Meeting

Environmental problems, genetic improvement, facts and fiction on sex differences, land use controls, and minorities in science are among a host of topics to be considered by the 139th annual meeting of the American Association for the Advancement of Science in Washington, D.C. Dec. 26-31.

Bird Identification By Radar Seen Helping Keep Airport Runways Safe

A doppler radar technique being perfected by scientists of Commerce's National Oceanic and Atmospheric Administration for identifying birds in flight is expected to have important applications to airport safety where birds are often a hazard.

For several years, NOAA has employed doppler radar to investigate tornadoes, monitor motions of the ionosphere, and chart the life histories of thunderstorms. Now, Dr. Ben B. Balsley and John L. Green of the Aeronomy Laboratory, one of NOAA's Boulder, Colorado-based Envirnomental Research Laboratories, believe that doppler radar is adaptable to identification of birds by flight characteristics.

The U.S. Air Force, which loses several pilot lives and millions of dollars worth of jet engine parts annually because of bird collisions or birds being sucked up into the vanes of jet engines, is funding a one-year NOAA study to determine the feasibility of doppler radar bird species identification.

Collaborating with the NOAA researchers will be Professor Warren Flock of the University of Colorado, who has performed conventional radar bird-identification studies for the U.S. Air Force since 1968.

"If doppler radar can identify bird species on runways," Flock says, "airport control towers may be able to estimate the potential danger to aircraft. When the birds pose a hazard they may be dispersed with audio equipment or the tower may re-direct and reduce the speed of aircraft."

Conventional radar techniques are currently used by some ornithologists to map bird migrations. This method involves tracking the bird's movement over the ground.

Doppler radar, on the other hand, gives a continuous measurement of the bird's radial velocity—the speed at which the bird is moving towards or away from the radar.

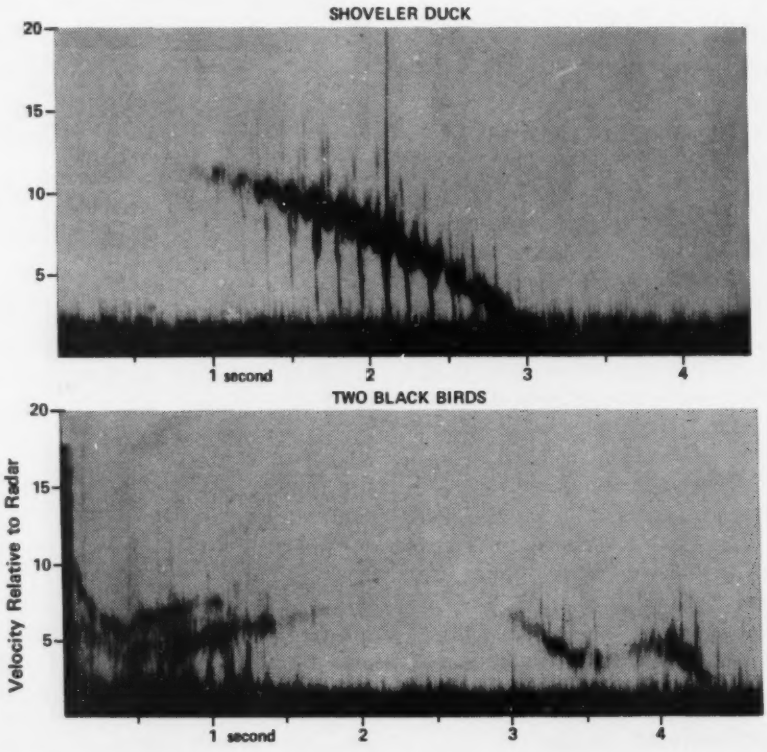
To do this, doppler radar takes advantage of the fact that electromagnetic waves echoing from a moving target will be slightly changed in frequency depending upon the target's velocity. The radial velocity is determined by the actual amount of frequency shift.

Focusing doppler radar on a bird, Balsley and Green simultaneously measure the radial-velocity contributions of the various parts of the bird's wings and body. This information is then plotted graphically, as a "special signature," typically showing a heavy line for the body intersected perpendicularly and periodically by thinner lines representing wing beats. Preliminary results indicate that different bird types yield distinct spectral signatures.

Balsley and Green hope their research will ideally produce a set of species-specific signatures that will enable ornithologists to establish a catalog of doppler radar bird identifications.

"If this is possible," says Dr. Charles Wilber, chairman of Colorado State University's Zoology and Entomology Department, "it will open a new area of knowledge to ornithologists.

"For example, we are now mapping bird species migrations over Colorado's oil shale fields. Perhaps doppler radar could help us prepare a more complete and accurate environmental impact statement for the proposed development of these oil resources." —*NOAA*



RADAR FOR THE BIRDS—*Scientists of Commerce's National Oceanic and Atmospheric Administration hope to refine present doppler radar bird-identification techniques into a useful tool for aviation controllers and ornithologists alike. Some preliminary results of this investigation are shown here in the form of running-time doppler radar returns from two species of birds. Echoes indicate the birds' radial velocities—velocities toward or away from the radar antenna—and show a heavy body line interrupted periodically by thinner lines representing the wing-beats.*

Expert Team Solves Knotty Ecology Problems For U.S. Cities, Industry

Cities, industry and individuals are being helped to locate and solve environmental problems by a team of environmental trouble-shooters from Texas A&M University. Supported by Commerce's National Oceanic and Atmospheric Administration, Sea Grant scientists under Project Director J. Martin Hughes are bringing the results of their research and technical expertise directly to bear on knotty problems of coastal ecology.

Representing ten disciplines in the Environmental Engineering Division of the university, the team began operation in September. It responds to requests for help by sending out task forces of one or more team members with the appropriate training and experience to analyze the problem and recommend action. The action recommended may be specific enough to provide a solution, or when the problems are extremely complex, may suggest employing commercial consultants to design solutions, or consulting government agencies that can provide financial or technical assistance.

A problem recently brought to the group was posed by a shipyard that specializes in marine repairs and barge cleaning processes. Their work involves noxious effluents which the yard has heretofore dumped into the Houston ship channel, a practice which the yard-owner fears may lead to heavy fines under new state legislation. The team study of his problem took three directions. They advised the yardowner of the appropriate laws, including both technical provisions and penalties; they made an engineering review of his treatment process; and they advised him of other facilities with similar problems, suggesting possibilities such as that several yards together put in a treatment plant that individually none could afford.

"As individuals, we have knowledge and experience that can be used to zero in on specific environmental problems," explains Dr. Roy W. Hann, Jr., head of the University's Environmental Engineering Division and member of the team. "As a team, we now have the mechanism through which our help can be sought and advice rendered. The environmental team has taken the long-successful idea of agricultural extension work—so important to land grant colleges—and applied it in a modern context in a Sea Grant college."

The Secretary of Commerce designated Texas A&M University as one of the nation's first four Sea Grant Colleges in September 1971.

In another trouble-shooting project, the team was approached by a small Texas city with a malfunctioning waste treatment plant. The "digester"—where separated solids are cooked in a non-oxygen environment—was foaming and experiencing other problems, apparently from receiving excess oils, grease and detergents. A three-day investigation by a task group found that this was indeed the case, and traced the source of the harmful substances back to certain local plants. The facts were given to the city for action in accordance with the applicable laws and ordinances.

Task force

The team is made up of 15 scientists and engineers at the university who carry out normal university teaching and research activities. To form the team on an experimental basis, they obtained Sea Grant funding from the NOAA grant and private sources, for the equivalent of one person for six months, with any of the 15 available to be called upon for a brief period of time to participate in a task force. Among them are specialists in such areas as water quality, environmental health, waste treatment, coastal pollution, air pollution, transportation engineering computer sciences, chemical oceanography, microbiology, and aquatic biology.

An important adjunct to the team operations is an environmental information center, directed by a research chemist. The information center organizes reference material on environmental quality for the use of team members, and maintains documentation of the projects accomplished by the task forces. *—NOAA*

Licensing Proposals Considered At Geneva

Proposals for establishing international machinery to facilitate licensing activities between parties in industrialized countries and those in developing countries were considered at a recent meeting of a committee of experts formed by the World Intellectual Property Organization in Geneva, Switzerland.

The meeting concentrated primarily on identifying sources of information in industrialized countries for existing technology, publicizing licensing requests and offers related to developing countries' needs, facilitating licensing negotiations with such countries, and identifying measures to be taken through national legislation.

The committee recommended that WIPO establish a Permanent Committee to consider methods for facilitating the acquisition by developing countries of patented and unpatented technology through licensing. The committee rejected as premature the negotiation of a treaty on this subject.

WIPO administers the "Paris Union" International Industrial Property Convention, the major intergovernmental patent and trademark agreement to which the U.S. and approximately 80 other countries belong. *—Patent Office*

Patents Of Special Interest

Recent patents issued by the U.S. Patent Office included:

Apparatus for cooling air. An apparatus for providing a stream of substantially dry evaporatively cooled air for use in dwellings and the like, characterized by the utilization of a high-speed blower for establishing a stream of air, a continuously rotating water-saturated pad interposed in the stream adapted to provide a radial discharge of moisture-ladened, evaporatively cooled air and a substantially dry perforated pad interposed in the stream of air between the blower and the periphery of the saturated pad for extracting moisture from the air, whereby a stream of relatively dry cooled air is provided. Patent No. 3,705,479 issued to Wilson W. McPherson, 925 Griffith, Fresno, Calif.

Multi-row, multi-crop harvester. A machine for harvesting crop from densely planted crop bearing plants of relatively low height arranged in closely spaced rows and suitable for harvesting different types of crops such as snap beans, lima beans, peas, dry beans and the like. The harvester is preferably self-propelled and driven over the bed of plants to harvest in a single pass a swath of the plants including a number of rows by stripping the foliage and crop from the plants but leaving the stems still rooted in the ground and then separating the stripped foliage from the crop, returning it to the swath harvested and collecting the separated crop. Patent No. 3,705,483 issued to Virgil N. Jarrell and Arthur L. Townson, Vila, Del., and assigned to Chisholm-Ryder, Inc., Niagara Falls, N.Y.

Jet engine air compressor. A gas turbine jet engine is modified to act as an air compressor by removing the propulsion nozzle to increase the expansion ratio across the driving turbine and by injecting steam generated in the jet exhaust into the driving turbine to restore volume flow lost by removal of compressed air from the compressor. Patent No. 3,705,491 issued to Richard W. Foster-Pegg, 101 Fourth Ave., Warren, Pa.

Patents numbering 2,275,558 to 2,728,912 expire during December, 1972. Upon the expiration of the 17-year period covered by the patent, the invention passes into the public domain and may be made, used or sold by the public without payment of any royalty, or infringement of the inventors exclusive patent rights.

Optical recorder. Non-impact printing or recording apparatus adapted for use with a digital computer. The apparatus is characterized by the employment of an optical character generator and timing system capable of printing information on a moving photoresponsive medium. It is further characterized by the provision of a field mask disposed intermediate a lens system and the photosensitive medium which field mask prevents projection of more than one character from a column of characters. Patent No. 3,705,543 issued to James D. Rees, Pittsford, N.Y.

Abstracts and drawings of patents are published as they are issued in the *Patent Official Gazette* each Tuesday. More than 1,600 patents are issued each week. Trademarks are published in the *Trademark Official Gazette*. Copies of the *Patent Official Gazette* and the *Trademark Official Gazette* may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402.

Science Calendar

Jan. 15-19—Chicago, Ill.—Pheasant Run Lodge, Managing for Quality. Sponsored by American Society for Quality Control.

Jan. 23-25—Philadelphia, Pa.—Bellevue-Stratford Hotel. 1973 Annual Reliability and Maintainability Symposium. Sponsored by American Society for Quality Control, ASME, AIIE, SAE.

March 14-16—Chicago, Ill.—Conrad Hilton Hotel. Industrial Water & Pollution Conference and Exposition. Sponsored by Water and Wastewater Equipment Manufacturers Assn.

March 19-21—Gaithersburg, Md.—National Bureau of Standards. National Roofing Technology Conference.

March 23-25—Hill City, Kan.—Mid-America New Ideas Fair, Graham County Fair Grounds. Information: Hill City Chamber of Commerce, Hill City, Kan.

March 27 — Gaithersburg, Md. — National Bureau of Standards. ANSI Committee on Consumer Education. Contact: T. W. Lashof, 921-2983.

April 4—Gaithersburg, Md. — National Bureau of Standards. Minicomputer Symposium. Contact: Eric Swarthe, 921-3545.

April 4-7 — San Mateo, Calif. — Northern California Industrial Exposition, Hall of Inventions. Information: Northern California Industrial Exposition, Freeman and Associates, 77 Jack London Square, Oakland, Calif.

April 9-10 — Gaithersburg, Md. — National Bureau of Standards. Federal Information Resources Conference.

April 23-26 — Washington, D.C. — Sheraton Park Hotel. American Physical Society. Contact: K. G. Kessler, 921-2001, or W. R. Tilley, 921-2493.

May 8-9—Gaithersburg, Md.—National Bureau of Standards. Color & Appearance Symposium. Contact: T. W. Lashof, 921-2983.

INTERNATIONAL COMMERCE REPORT

- **U.S. mission to Japanese foundrymen**
- **Quarterly report, U.S. share of manufactured exports**
- **Exhibition results at U.S. Trade Centers**
- **Economic trends in Switzerland, Bahamas, Greece, Yugoslavia**
- **Business holidays in 1973 in 135 nations**
- **Licensing and sales opportunities worldwide**

Data Service On Foreign Firms Speeded

A U.S. company seeks details on the business reputation of an agricultural supply firm in Lagos, Nigeria. Another wants to know the sales territory of an Australian textile company. Still another is interested in obtaining the financial references of an Osaka, Japan, electronics enterprise.

Each year the U.S. Department of Commerce processes more than 50,000 such requests from about 7,000 U.S. firms. Responding, it has amassed files that contain nearly 150,000 microfilmed reports. About 17,000 new ones are added annually.

A new dimension in speedier service — through use of international telegraph rather than air mail—is being added to this marketing tool on Jan. 1. And its long-familiar name of World Trade Directory Reports is being changed to World Trade Data Reports—still WTDR in short. In tests, the delivery time has been cut from an average of 77 to 35 days, an important improvement as worldwide business competition intensifies. The WTDR price goes up to $5 from $2, but the previous $10 charge for special telegraphic service, where it was desired, has been eliminated.

Along with the improvement in WTDR service, the Department is also expanding worldwide its Agent Distributor Service (ADS). The ADS locates potential agents and distributors in foreign markets, prepared to enter into discussions with U.S. exporters. Generally, the names of three qualified agent or distributor candidates are included in each survey. The price remains at $10.

U.S. firms interested in this service may contact the nearest Commerce Business Service Field Office, where international trade specialists are prepared to offer help in completing ADS applications.

The WTDR service, as offered over many years by the Commerce Department and the U.S. Foreign Service, provides descriptive and background data on specific foreign firms. Though not credit reports, they do contain names and addresses of sources of credit, financial and commercial data as well as information on year established, number of employees, method of operation, lines handled, size of firm, name of an executive officer, general reputation in trade and financial circles, and names of the firm's trading connections.

With the introduction of the improved WTDR service on Jan. 1, U.S. firms will be asked to complete a revised request form. These forms will include, in addition to the customary name and address of

the subject, items relating to the U.S. requester, identifying it by type of activity, size, nature of request and status in market. U.S. firms are encouraged to offer their comments on the service.

The period for which a WTDR will be considered current has been extended from 12 to 18 months, in line with the recommendation of a Commerce Department Task Force that recently reviewed the entire WTDR operation.

One of the principal WTDR users, the Foreign Credit Insurance Association (FCIA), aligning with this change, is in the process of amending all outstanding policies to reflect it. Meanwhile, U.S. firms are reminded that the FCIA does not regard a WTDR as mandatory in determining the creditworthiness of a buyer, but accepts it as one of two required reports. Further information on this point is available from the FCIA at 250 Broadway, New York, N.Y., 10007, or any FCIA branch office.

Ohio Mission Finds Africa Buyers Seeking New Import Sources

An Ohio trade mission testing African markets found, as many American traders have before them, that price competition and the traditional ties with European suppliers are formidable challenges.

At least one mission member discovered, however, that his line of bakery equipment was more attractive than competing German products even on a price basis. And the group learned, particularly in Zaire —the former Belgian Congo—that many Africans are now inclined to cut their links with Europe in favor of America.

The visiting group was the Central Ohio mission to Zaire, Zambia and Kenya, organized by the Columbus area Chamber of Commerce and the Ohio Development Department's International Division, in cooperation with the U.S. Department of Commerce. It was led by Walter W. Birge of the Ohio National Bank, Columbus.

Market for coils

Herbert Appleton, National Electric Coil, a Division of McGraw-Edison, expects to develop sales of coils to the railway shops in Zaire for use in older diesel-electric locomotives, reports Birge. Marine transportation on the Congo River, he added, is a potential market for Appleton's electric motor repair parts.

It was Fred Pfening, Fred Pfening Co., who learned that American bakery equipment is slightly lower in price than equivalent German items. He says that a large Government food company that has plans for a new bakery may well hold promise for future sales.

Fred Yenkin, Yenkin Majestic Paint Corp., signed a contract for supply of a substantial quantity of materials for paint manufacture. Yenkin expects his sales in Zaire to double or triple over the next few years.

Representing the Stewart Glapat Corp., Birge generated considerable interest in establishment of a mini factory to make glass containers for food to be processed.

Richard S. Zimmerman, Zimmerman Enterprises, will be following up on housing development schemes that could be of considerable interest to Zairian housing authorities.

The investment field seems promising for tourism, low-cost housing, and light consumer goods industries, Birge reported.

U.S. Foundry Suppliers See Equipment Sales In Japan

Melting, hammering, casting, molding, blowing, cleaning—U.S. equipment and supplies for all of these foundry operations are marketable in Japan, according to a trade mission that spent ten days there last month.

A nine-member group of U.S. producers, after talking with more than 150 industrialists in Tokyo and Osaka and touring several plants, melded its views into this market picture as reported by mission leader Paul H. Cullen:

► Japan offers immediate and long-term sales potential for almost all of the products represented on the mission—which included pipe-casting machines, industrial vacuum cleaners, core blowers; mixers, blenders, reclaimers; resins, binders, additives, and many others. There is a major market for U.S. foundry pollution-control machinery, melting equipment, and equipment for use in producing chemically bonded sand.

► Much of the foundry machinery in Japan, particularly in the smaller plants, is out-dated and needs replacement to increase production.

► Slight modifications are needed in U.S. equipment for sale in Japan, mostly in the power area. German machinery offers the most competition.

► Interest rates are higher than in the United States. Credit, however, is readily available.

The primary interest of the mission members was to obtain agents or licensees, and some 25 agreements are now under negotiation. Several members plan to return to Japan for follow-up in four to six months.

Cullen said that one of the participants, expressing his view to the director, put it this way: "My candid opinion, as a foundryman with many years of experience, after having visited foundries and having discussed foundry problems

MEETING WITH AMBASSADOR—*In Tokyo, the foundry equipment mission paused for a picture at the U.S. Embassy during a visit with Ambassador Robert S. Ingersoll (center). Left to right: Mission members Henry Rowan, Roy C. Hathorn; Stephen M. Ecton (Embassy); Russell Manley; Ambassador Ingersoll; Edward J. Texler, Paul H. Cullen, Harold R. Goss, Frederick Menzel; Rokuro Niwa (Embassy).*

with our hosts, is that there is a great potential market for U.S. equipment now and projecting into the next decade; virtually another Klondike."

The statement is substantiated, Cullen pointed out, in a report by the Japan General Foundry Center Foundation which says: "A majority of the Japanese foundries are of the small enterprise groups, with a small work force . . . and badly lacking in modern techniques of foundry management and quality control—a predicament which needs to be redressed if they are to stay in business."

Discussions valuable

Harold R. Goss, Shalco Systems, Cleveland, felt that the round table discussions he attended were of special value. Because the dialog was "in both directions," he explained, "we were able to learn from the Japanese what we as foundry equipment manufacturers must do in order to sell our products in their country."

In Tokyo, the mission met with the American Chamber of Commerce in Japan, and with U.S. Ambassador Robert S. Ingersoll. In the Osaka-Nagoya area, the members visited three foundries—one, large and modern; the other two, smaller and older. They also travelled to Koyoto, and to Nara to view the 500-ton bronze casting made by the Japanese about 850 A.D. It is said to be one of the largest ever made in bronze and no one knows how it was cast.

Mission participants were: Stephen Budney and Ralph Kawecki, Budney Co., New Britain, Conn.; Frederick Menzel, Dependable Shell Core Machines, Inc., Portland, Ore.; Henry Rowan, Inductotherm Corp., Rancocas, N.J.; Russell Manley, Manley Brothers, Chesterton, Ind.; Leslie D. Rikker, National Engineering Co., Chicago, Ill.; George Dupre, National Foundry Equipment Co., Palatine, Ill.; Edward J. Texler, Osborn Manufacturing Co., Cleveland, Ohio; and Roy C. Hathorn, R & J Machinery Co., Anniston, Ala. Mission Director, and Harold R. Goss, Shalco Systems, Cleveland, Ohio.

Cullen heads the Program Management Division of the Commerce Department's Office of Business Services.

Colombia Eases Import Control On Some Items

Colombia, in a recent action, substantially eased import restrictions on certain products, including: vulcanized fiber; scrap ships, boats and other vessels; crude magnesite and calcined magnesite; mercury; tanning extracts of vegetable origin, other than quebracho; artificial graphite; colloidal graphite; machinery for the preparation of meat, fish, crustaceans and molluscs; book-binding machinery, including book sewing machines; single engine, single seat planes specially designed for soil fumigation; and ethylene. Further details may be obtained from the Andean Group, Latin America Division, BIC, U.S. Department of Commerce, Washington, D.C. 20230.

Ecuador Drops Remaining Duties On Farm Machinery

Ecuador, by a November Presidential decree, has eliminated remaining import duties on machinery and tools for agriculture and livestock use, tractor tires, spare parts, pharmaceuticals for veterinary use for medical and therapeutic purposes, pesticides, organic and chemical fertilizers, natural or synthetic vitamins in pure or mixed form, seeds, plants, semen, and breeding animals. These imports will be dutiable only if there is domestic production. Prior import deposits, eliminated on many of these items in July, were lowered to 10 percent on the remainder. A 4 percent sales tax remains in effect for the above imports. The decree is in line with the Government's policy of priority for agricultural and livestock development.

U.S. Share Of World Manufactures Market Continues In Downtrend

The U.S. share of world exports of manufactures, excluding shipments to this country, declined in the second quarter of 1972. This deterioration continued the downtrend under way for some time, as shown in the accompanying table and previous articles in this series.

When world exports of manufactures are measured in U.S. dollars at current exchange rates, the U.S. position in April-June stood at 17.9 percent, nearly half a percentage point below the average level of the two preceding quarters when trade flows were distorted by widespread dock strikes and their aftermath. The value of this country's manufactured exports, however, expanded by 4.7 percent to $8.1 billion, seasonally adjusted, during this period.

The major part of the drop in U.S. share was attributable to the change in the dollar value of world currencies over the past year. The appreciation of the currencies of 12 of the 13 industrial countries, which together with the United States make up the "world" export total for this share calculation, has caused U.S. exports to suffer by comparison and has resulted in a break in this long-standing series.

Share falls in most groups

When world exports of manufactures are measured in dollars converted at constant exchange rates —those of the first quarter of 1971 before any of the currency changes that led to the Smithsonian agreement—the U.S. share dropped by only one-tenth of a point to 19.6 percent. Except for a small share gain in "other manufactures," a diverse group consisting mostly of semimanufactures and consumer nondurables, the U.S. standing in the remaining groups fell by half a point or less.

The U.S. share of the "other manufactures" market edged up by three-tenths of a point to 12.4 percent in the second quarter of 1972 from the average level of the two preceding quarters, using constant exchange rates. The improvement stemmed from an 8 percent rise in exports to a value of $2 billion during the period. Deliveries of paper and manufactures led the advance while those of scientific instruments posted a notable gain as well. Also contributing to the overall increase were higher sales of nonferrous metals, photographic supplies, and textile yarns and fabrics.

Exports of nonelectric machinery rose only marginally, and the U.S. position slipped to 25.9 percent. Deliveries of several types of machinery showed large increases, especially office machines, power generating machinery, and nonagricultural tractors and parts. These gains were partially offset by sluggish sales of other products as well as some losses, particularly in metalworking machinery.

The decline in the U.S. share of the electric machinery market to 21.6 percent was mainly attributable to a substantial drop in exports of power machinery and switchgear which held the overall rise in sales to modest proportions. Deliveries of tubes, transistors, and semiconductors, were buoyant, however, and telecommunications apparatus also posted a small gain.

The U.S. position in the chemicals market also dropped during April-June 1972, reaching 18.2 percent. Although exports of inorganics, medicinals and pharmaceuticals, and organics rose modestly, a sharp decline in manufactured fertilizers limited the advance in total chemical shipments to 2 percent.

Substantially lower deliveries of commercial aircraft, especially to South Africa, France, Israel, and Australia, were largely responsible for the poor U.S. performance in transport equipment, although sales of military aircraft declined as well. These losses were more than offset by sharp increases in movements to Canada of passenger cars and also automotive parts and accessories. The U.S. share in transport equipment was, nevertheless, reduced by half a point to 27.5 percent.

French share rises

Among the five principal U.S. trading partners, only France achieved a gain in the second quarter in its share of the market for manufactures outside the United States, when world exports are valued at constant exchange rates. The modest improvement resulted from a 7.5 percent jump in exports from the average level of the two preceding quarters. The French performance was comparatively strong in electric machinery and "other manufactures," but quite weak in chemicals.

The German and Italian shares, measured in this same way, were unchanged, as their exports rose 5 to 6 percent in the second quarter. The only above-average German performance of significance was in nonelectric machinery, but this was offset by a poor record in transport equipment. Italy scored well in transport equipment but lagged markedly in electric machinery.

Japan showed a sizable share loss as its exports, measured at constant exchange rates, decreased by 2.5 percent. The fall in shipments was due in part to the work slowdown by Japanese seamen which affected the country's exports during much of the second quarter. It may also reflect the effects of the yen appreciation on demand in Japan's foreign markets. The weakening in Japan's standing was evident in all major types of manufactures, especially transport items.

The United Kingdom, despite a small rise in exports, also lost share. The country's position deteriorated most in nonelectric machinery and transport equipment. Only in chemicals did the British show improvement in their share.

U.S. SHARE OF WORLD EXPORTS OF MANUFACTURES

Adjusted for seasonal variation

Commodity		U.S. exports (million dollars)	U.S. share of world exports to foreign markets[1] (% based on current rates of exchange[2])	(% based on constant rates of exchange[2])
Manufactures, total				
1971	1st qtr.	7,832	21.2	21.2
	2nd	7,692	20.3	20.4
	3rd	8,270	20.6	21.0
	4th	7,060	17.6	18.6
1972	1st	8,373	19.0	20.7
	2nd	8,084	17.9	19.6
Chemicals				
1971	1st qtr.	938	20.5	20.5
	2nd	959	20.3	20.5
	3rd	1,201	23.4	24.0
	4th	754	15.2	16.2
1972	1st	1,060	19.2	20.9
	2nd	926	16.6	18.2
Nonelectric machinery				
1971	1st qtr.	2,224	27.6	27.6
	2nd	2,063	25.3	25.5
	3rd	2,250	25.9	26.5
	4th	2,046	23.5	24.7
1972	1st	2,400	25.4	27.4
	2nd	2,262	23.9	25.9
Electric machinery				
1971	1st qtr.	769	22.0	22.0
	2nd	737	20.8	20.9
	3rd	823	21.4	21.9
	4th	772	19.9	21.0
1972	1st	904	21.0	22.8
	2nd	868	19.8	21.6
Transport equipment				
1971	1st qtr.	2,040	31.6	31.6
	2nd	2,096	31.3	31.5
	3rd	2,016	29.3	29.8
	4th	1,784	25.9	27.1
1972	1st	2,018	26.6	28.8
	2nd	2,027	25.3	27.5
Other manufactures				
1971	1st qtr.	1,861	12.9	12.9
	2nd	1,837	12.4	12.4
	3rd	1,980	12.7	12.9
	4th	1,704	10.9	11.5
1972	1st	1,991	11.6	12.7
	2nd	2,001	11.3	12.4

Note: U.S. exports and U.S. percentage shares have been distorted by the effects of U.S. dock strikes July 1-Nov. 26, 1971. The term "manufactures" refers to chemicals, machinery, transport equipment, and other manufactures except mineral fuel products, processed food, fats, oils, firearms of war, and ammunition.

[1] World exports are defined as exports from 14 major industrial countries, excluding shipments to the United States. These nations, which account for approximately four-fifths of world exports of manufactures to foreign markets, are: United States, Austria, Belgium-Luxembourg, Canada, Denmark, France, Federal Republic of Germany, Italy, Netherlands, Norway, Sweden, Switzerland, United Kingdom, and Japan.

[2] Because of the widespread appreciation of foreign currencies in 1971, two series of U.S. percentage shares are shown in this report. The first column shows shares based on current rates, the official rates of exchange for merchandise shipped during each period, and continues the series shown in previous quarterly reports. The second column shows shares based on data measured at constant rates of the first quarter 1971.

Printing Equipment To Be Shown In Moscow, October

ElectronPolygraphMash 73, an exhibition to be held in Moscow Oct. 19-23, is planned strictly for foreign firms; there will be no Russian exhibits. In general, the emphasis will be on electronic and/or computerized equipment for printing, binding, publishing and distribution of books, as well as information processing systems and computerized reproduction equipment.

Write: Grigoriy A. Karpel, Dep. Gen. Dir., Foreign Exhibitions in the USSR, Chamber of Commerce & Industry, Sokolnicheskiy Val, 1-a, Moscow 107232.

Oil, Shipping, Airline Firms To Display In Malta, 1974

A local company in Malta, Ronasons International Ltd., is planning a Mediterranean International Shipping, Oil Industries and Airlines Exhibition just prior to the Middle Sea Yacht Race in 1974. The organizers are seeking shipping, airline and oil firms, banks and governmental bodies as exhibitors at the October fair, MISOIA 74. Write: Ronasons International, Valletta, Malta.

Bolivia and Colombia Act On Import Duties, Credit

Bolivia reduced import duties Nov. 3 on certain foodstuffs and spare parts for vehicles. The reductions are designed to partially offset October's Bolivian peso devaluation. For details, write BIC-242, U.S. Department of Commerce, Washington, D.C. 20230.

As of Nov. 22, the terms of financing imports into Colombia have been limited to a maximum of six months for raw materials and consumer goods and to one year for equipment and capital goods. Longer periods may be approved by the Colombian exchange office in special cases, such as Eximbank financing of large capital goods for which terms are normally greater than one year.

Trade Fairs, Centers

London Center To Display U.S. Electronics Test Items

Electronics test and measuring equipment, U.K. The U.S. Department of Commerce will stage a major exhibition of U.S. electronic test and measuring instruments April 30-May 4 at the U.S. Trade Center in London.

Basically, four trade audiences will be invited to the exhibit—original equipment manufacturers of electrical and electronic components and equipment; educational and research institutions; end-users of communications and electric power equipment; and importers, commission agents and distributors.

Inflationary pressures in the United Kingdom have made cost effectiveness the principal consideration in the purchase of electrical/electronics measuring and test instruments, domestic or foreign. Advanced technology will not in itself assure the large share of Britain's market heretofore enjoyed for that reason alone. The U.S. manufacturer should, therefore, orient his sales approach toward the ultimate savings in time and money that his products will create for the buyer.

Two technologies considered of paramount importance in Britain for test and measuring instruments are automatic test equip- (ATE) used in the production of electrical and electronic end products, and solid state devices.

For details, call Lee W. Swift, Jr. on 202-967-4461.

Automotive service and repair equipment, USSR, May 23-June 6. The USSR is expanding its automotive industry, especially the production of passenger cars. This expansion necessitates a corresponding increase in the automotive service and repair field. The current five year plan calls for construction of 8,600 service stations by 1975. The Commerce Department's exhibit at "Autoservice 73" in Moscow will offer for the first time an excellent opportunity to expose American products to the most important buyers in this growing market area. Call Oleg Jerschkowsky at 202-967-2801.

TEXTS FOR TRADE—*The U.S. Trade Center in Sydney, Australia recently presented the New South Wales Ministry of Education with 100 economic textbooks, for distribution throughout the province's school system. Taking part in the presentation are (from left): Deputy Trade Center Director John F. Whiteley, Director James W. Goodsell, New South Wales Minister for Education E. A. Willis, and Marvin Belden, director of planning for the Trade Center.*

U.S. Exhibitors Invited To Fairs In Three Nations

Three international trade exhibits in France, Canada and Czechoslovakia are inviting U.S. firms to show their goods.

INTERSUC 73, March 31-April 3, Paris. The chocolate and confectionery industry's annual exhibition will be held in conjunction with the International Bakery and Pastry Exhibition (EUROPAIN), and the International Ice Cream Trade Show. For further information, write: French Trade Shows, 1350 Avenue of the Americas, New York, N.Y. 10019.

HomExpo '73, May 1-5, Calgary. Western Canada's first international exposition will feature home and garden products, with special areas devoted to lifestyles around the world, architecture, foods, youth, fashion, and the world of tomorrow. Write: Clarence Semrau, show manager, HomExpo, Calgary Home Builders' Assn. 308, 540 12th. Ave. SW., Calgary, Alberta TR2 OH4 (403-264-7170).

Office equipment, June 25-29, Prague. An Austrian group based in Vienna and the Czech foreign trade enterprise will stage an exhibit of office organizing equipment that will also include hard and soft EDP items. A planned administrative reform makes this a particularly appropriate time to enter the Czech market. The Austrian organizer reports that two American firms have already applied. Write: Arbeitsgemeinschaft Bueroorganisation, Muthgasse 2, A-1190 Vienna (before Dec. 31).

ANALYZING THE PRODUCT—*Dr. W. Rittner (left), representing Matheson Gas Products in Munich, discusses calibration gases with a prospective customer at the Frankfurt Trade Center's analytical instrument show.*

Analytical Instruments Display Caps Frankfurt Center's First Decade

An audience of 722 laboratory specialists from 11 countries viewed an Oct. 23-27 exhibit of U.S. analytical instruments presented by 47 American companies as the Frankfurt U.S. Trade Center observed its tenth birthday.

Two exhibitors were seeking agents or distributors of which one was able to conclude an agreement already during the show. Negotiations with another firm were underway at show's end.

A colloquium on instrument applications in the fields of chromatography and spectroscopy was presented in connection with the exhibit and helped attract a particularly high quality audience.

This successful show was held during the Frankfurt Trade Center's 10th anniversary celebration. During the ten years of its existence 2,940 firms have exhibited their products at the Frankfurt Trade Center. Approximately 100,000 specialists from all over Germany and Europe visited these shows and bought equipment worth $30 million directly at the exhibitions, while orders for another $400 million were placed during the twelve months following the shows. Many of the companies participating in these exhibitions were seeking local representatives or licensees; 480 of them were able to consummate permanent business relationships with German or other European firms during the exhibition itself, and many more later signed agreements with firms contacted at the Trade Center.

Business Machine Show Had $4 Million In Caracas Sales

More than $4 million in on-the-spot sales were made during the October exhibition of advanced U.S. business machinery in Caracas.

The 33 American firms which mounted exhibits were duly impressed:

"Preliminary indications are for fantastic success by our company," reported the Singer Friden representative. "This is by far the best-planned exhibition I've ever seen in Venezeula."

"This trade show has been the best we've attended in Latin America," was the Digital Equipment Corp. representative's verdict. Publicity was superb and the type of people invited were the right ones."

"The people who came are the type we were looking for, who in any other way would have been very hard and costly to contact," said the man from Management Assistance Inc.

Five exhibitors were seeking representatives in the Venezuelan market; two agents were appointed during the show and negotiations were begun with three others.

First JEEP Exhibit At Paris Center Draws 11 Firms

The first Joint Export Establishment Promotion (JEEP) held at the Paris Trade Center resulted in $56,000 worth of off-the-floor sales of analytical instruments. Projected sales for the subsequent 12-month period are $1.8 million.

JEEPS are special efforts by the Commerce Department to attract new firms into exporting through setting up specific Trade Center shows for new-to-market exhibitors, and defraying up to $300 of the cost of overseas promotional activities and up to $100 of the cost of shipping unsold items back to the U.S. or to another JEEP show. All this is in addition to the regular Trade Center services.

The five exhibitors representing 11 U.S. companies at the Analytical Instrumentation JEEP Nov. 27-30, signed five export representatives and obtained 130 additional prospective agent leads. Another 31 agreements are expected to be signed in the next year.

Among the 159 registered visitors to the Paris Trade Center were 14 from seven foreign countries. A VIP reception during the inaugural JEEP attracted another 86 interested attendees.

Firms seeking details on participating in a JEEP may contact a Department of Commerce Field Office (see list on inside back cover) or call 202-967-3363.

Worldwide Business Outlook

Building Boom Spurs Switzerland; Wide Range Of Goods Is Needed

The Swiss economy is booming again.

Construction and related industries are particularly active, according to the U.S. Embassy in Bern, and private consumption continues to rise. GNP growth for 1972 has been about 14 percent at market prices.

Although industrial production in Switzerland grew by 2.7 percent during the first half of 1972, the mid-year index was only 1 percent higher than that for the same period last year. Production during the second quarter varied considerably by sector with the textile industry and the watchmaking industry showing the greatest increase (9 percent) and chemicals growing by 3 percent. Production in the machine building and engineering industry remained unchanged.

Production outlook

In some exporting industries, such as the machine industry, the order backlog has decreased to seven months and delivery dates have shortened. The production outlook remains uncertain. Smaller-sized plants, which were producing for larger-sized companies, have been particularly adversely affected.

Rationalization of controls over foreign labor were further implemented in October with the additional conversion of some seasonal workers to status under annual work permits. Although a new Federal regulation is to be issued in the near future concerning controls over foreign labor, no departure from the "stabilization" goal is presumed and a continued, strained labor market can be assumed.

The expansion noted in the Swiss construction sector was evident principally in residential and public construction. Authorizations to construct residential lodgings for the first six months of 1972 were 7 percent higher than for the corresponding period of the previous year. Although industrial construction showed little increase in terms of licenses approved for the first half of 1972, space involved was 18 percent greater than during the first half of 1971.

Construction curb

To contain further expansion and its inflationary impact, the Federal Council on an emergency basis tightened building restrictions in late summer, extending the 1971 ban on new luxury construction in certain areas to additional municipalities. Estimating that 70,000 new buildings will be completed in 1972, the Federal Department of Public Economy foresees a flattening out of the residential construction rate to 53,000 new dwellings a year between now and 1980.

The inflow of funds and high domestic liquidity has acted as a further stimulus, in addition to cost-push pressures, to the increase in wages and prices. Conversion of wages in some industries to a monthly rather than an hourly basis has made recent comparisons less meaningful. However, rates of wage increases, according to the Federal Office for Industry and Labor, showed a 9 percent increase in the second quarter of 1972 for industrial firms and the building trade over the same period of the previous year.

Outpacing wage rises has been the increase in the cost of living index which exceeded a 6 percent rate during the year and by October had risen by 7.2 percent in comparison to October 1971.

Measures introduced in the monetary sector with intent to stem expansionary effects in the domestic economy and measures to limit activity in the construction sector have shown no immediate constraining effect on the Swiss economic direction. With prospects of a renewed upswing, price stability is now enunciated as the primary economic objective.

The rising level of planned government expenditures and shrinking revenues brought about a revision of the 1973 budget, which nonetheless is considerably in excess of 1972.

The impact of an increase in the Federal defense tax and the turnover tax will not be forthcoming until 1974. Declining customs revenues, as a result of progressive duty reductions under the arrangement with the enlarged European Community, portend a continuing deficit in the future and prospective introduction of a value added tax.

Excessive liquidity

Excessive liquidity marked the Swiss capital market with a spillover into the domestic capital market during the earlier part of the year. With technical adjustments to foreign exchange holdings and a tighening of bank credit controls, domestic liquidity began contracting in the fall. Short and long-term interest rates began to rise. Some banking controls instituted earlier this year (tightening measures taken to curb the massive inflow of funds and the excessive liquidity overhang) were relaxed beginning in November, e.g., decreased minimum reserve requirements for commercial banks on domestic liabilities and reserve requirements on increases in foreign liabilities.

A narrowing of Switzerland's import-export gap with a declining trade deficit which took place earlier in the year began reversing itself when, in September, the deficit on trade was 2.5 percent higher than that of a year ago.

Exports, although 9.8 percent higher in September than the previous year, continued to lag behind imports whose increase was 8.2 percent in September from the previous year's high base.

However, overall levels of trade remain high. The outlook is for a larger merchandise trade deficit in 1973 than 1972, but with compensating earnings from tourism, capital and other invisibles.

Germany, Switzerland's primary supplier, provided 33.3 percent of Swiss imports for the first nine months of 1972 and absorbed 17.1 percent of Swiss exports for the same period. The United States, which has ranked as the fifth supplier of Switzerland, provided 7.7 percent of Swiss imports in the first nine months of 1972 and absorbed 9.8 percent of Swiss exports for the same period. In absolute amounts, U.S. exports to and imports from Switzerland were almost the same by value during the first nine months of 1972.

A Swiss arrangement with the enlarged European Economic Community provides primarily for eventual free trade in most industrial products. Tariffs are to be gradually reduced and abolished over a five-year period beginning Jan. 1, 1973. With the scope of agricultural concessions limited to tulip bulbs, cut flowers, and table grapes and peaches, agricultural items exported by the United States are largely unaffected.

Continuing requirement

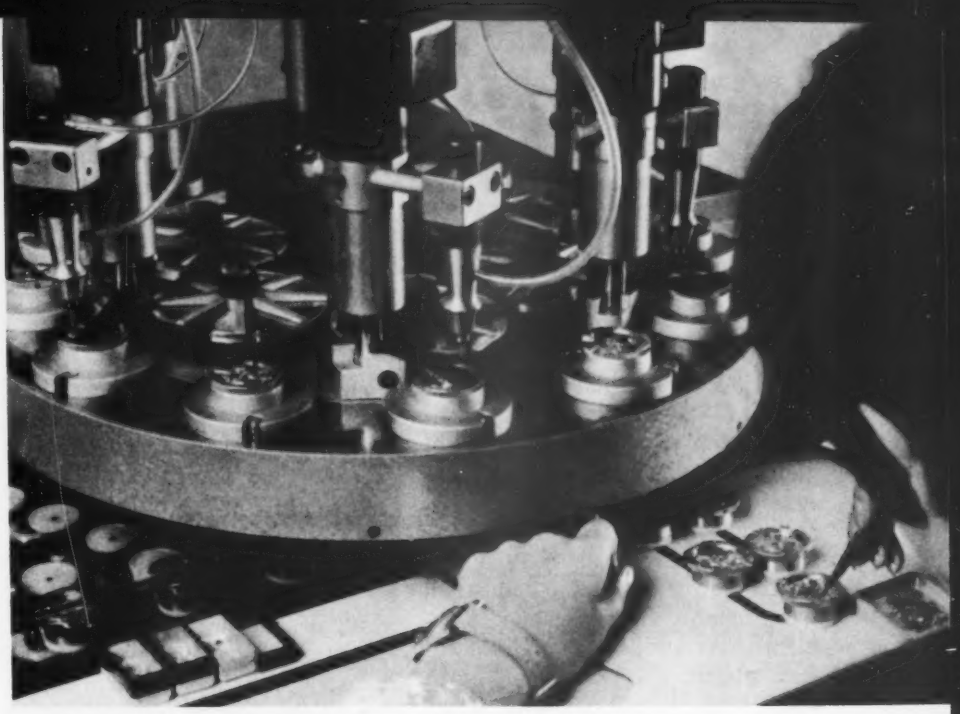
Switzerland's continuing need for technically and scientifically demanding products and in particular automated production methods should provide opportunities for U.S. firms. Although the United States has been in expansion with a decreasing rate of inflation, this has not caught up yet with the principal European producers, and, coupled with last December's realignment of currencies, price advantages should be forthcoming.

Product lines of particular interest continue to include electronic components and accessories; scientific instruments of advanced design for laboratory and industrial use; sophisticated measuring, control and test instrumentation; and medical instruments and apparatus, particularly for advanced health care.

In other lines, food processing and packaging machinery are an example of product interests. An increasing emphasis on consumption provides outlets for a wide range of consumer products and services including travel.

Trade and industry fairs in Switzerland of immediate interest to U.S. firms are being capped off with the sixth International Industrial and Medical Electronics Exhibition, Basel, March 6-10, and include the International Exhibition for Precision Techniques and Dimensional Measuring and Testing, Zurich, Jan. 25-31, and the International Fair for the Graphic Industry and Trade, Zurich, May 4-10.

Cross licensing arrangements and licensing for direct production continue to be of interest. Given limited land and labor in Switzerland, licensing production facilities in the United States, particularly by medium-sized firms, might be actively sought.



TIMES CHANGE IN SWITZERLAND—*Most Swiss watchmakers will be switching to digital timepiece production in the near future. Above, automated watch assembly.*

Bahamians Hope Economy Picks Up After Nationhood

The Bahamian economy continues to wind down from its 1969 high. Political controversy, centering on independence and the effect of immigration policy on the economy, has been largely responsible for the slump.

In the absence of large-scale foreign investment the economy is operating at about the level of activity which can be generated internally. Tourist arrivals and expenditures have increased substantially, but the increase has not stimulated a broad economic recovery. Construction has decreased sharply in Nassau as well as in Freeport, where it had already declined precipitously.

New investments, local or foreign, have been few, so that unemployment has become a problem. On the other hand, visitors to the

United States have increased very recently, which may be a sign Bahamian consumers are beginning to spend a little more freely. Moreover, several large investments in oil transshipment terminals and refineries appear possible.

Freeport hit hardest

Nassau, which has received the bulk of the increase in tourist visits, has weathered these tight times better than Freeport, where an abrupt decline in cruise ship visitors has been widely felt. Freeport's economy rests increasingly on its slowly expanding industrial base, notably an oil refinery, a cement plant, and several pharmaceutical plants. The Out Islands with their small population and slight development did not greatly benefit from the boom of 1967-69 and are only marginally affected by the economy's present sluggishness.

Although problems of the economy involve a variety of factors, several external to the Bahamas, the key probably lies in political uncertainties.

Immigration policy is designed to bring control of the economy progressively into Bahamian hands. This has wide popular appeal and there is general agreement its goals are legitimate. However, there are strong differences about the manner and pace of its implementation. A Royal Commission examined the problems of Freeport, found that administration of work permit issuance had hurt its economy, and suggested the need for clear policy guidelines. None have yet appeared and, meanwhile, in general no foreigner may work in the Bahamas more than five years.

While many businesses have been able to get necessary work permits, delays have added to the cost and uncertainty of doing business. As a consequence, immigration policy has tended to become the touchstone of investor confidence and the political opposition has charged it is responsible for the country's economic problems.

A second major issue has been independence. The government party pledged to lead the Bahamas to independence, if reelected. The opposition has contended the country should not take this step while its economy was declining and it was unprepared for the responsibilities of nationhood.

On Sept. 19, elections took place, the government party won a large majority, and independence is scheduled for July 1973.

In addition to the "Bahamianization" policy noted above, the Government seeks to diversify the economy to reduce its present heavy dependence on tourism. Emphasis is on agriculture, fishing and industry, with the Government taking equity and an active role in management in projects in these fields.

Surplus is gone

The economic decline has constricted Government programs. Revenues, particularly customs duties, have not grown as anticipated. The Government has tried to balance its expenditures to its revenues, but in the last two years its $4.6 million surplus has turned into a deficit of over half a million dollars, and a $3.3 million deficit is likely for 1972.

Since the Bahamas has only begun in the last few years to develop reliable data about the economy, analysis of import and export statistics remains one of the best means to evaluate economic activity. Trade figures adjusted for oil imports and exports show that as domestic consumption has dropped significantly, the visible trade deficit has also been reduced.

Although tourist clientele has clearly changed from individuals to groups and less money is spent outside the hotels on individual purchases, 1971 was a good tourist year and 1972 is even better. The Ministry of Tourism projects 1.5 million tourist arrivals for 1972 and the length of stay of the average tourist has reversed its downward trend and increased from 1971.

So far there is little construction in the pipeline. The Government has a $6.5 million hospital addition under way in Nassau and other infrastructure development awaiting funds such as a new sewerage system for Nassau. Despite the need, no low or medium income housing is under construction, although projects have been discussed.

While a number of Nassau-based banks have reported record earnings, the growth of the community has levelled off. The uncertainties associated with the Bahamas have discouraged placement of funds into the Bahamas and establishment of new trust accounts. The Cayman Islands have been receiving many of the accounts that formerly would have come to the Bahamas. On the other hand, the infrastructure for banking has been improving: the Bahamas now has direct distance dialing to the United States and a cable link will soon be operational.

Freeport's cement plant and oil refinery are operating at full capacity. The refinery is undergoing expansion which will raise its capacity to 500,000 barrels a day.

The solar salt operations in Inagua and Long Island have increased production to over a million and over 200,000 tons, respectively.

New facilities

Under the Government Industrial Encouragement Act, a garment factory making beachwear has begun operation in Nassau and small plants making paint, leather goods and boats are starting up. The Bahamas Development Corp., in partnership with Seabulk International, has announced plans to construct a $65 million oil transshipment terminal on Grand Bahama Island. Burmah Oil will lease the facility.

To further its policy of diversification away from tourism, the Government is exploring the agricultural potential of the various

islands. Andros is being considered for development of pig farming and a slaughter house whose production would substitute for present imports of pork. In fisheries the Government, with UNDP assistance, has begun a three year program to assess resources and train Bahamians in modern fishing methods.

Although the U.S. share of total imports appears to have fallen dramatically, if the imports for domestic consumption are separated from petroleum imports the U.S. share has declined only 6 percent since 1969 and is 64 percent of the market. What is more significant is that Canada, the United Kingdom and the major EEC countries have increased their market shares. The performance of imports from the United Kingdom is particularly striking.

U.S. can get it back

Despite this trend, U.S. imports can probably be expected to increase their share of the market when economic activity, particularly construction, increases. At present, the one major export opportunity is oil transshipment terminal and perhaps refinery material and equipment.

Tourist and resort residential developments remain the principal area needing foreign investment and management. The Bahamas also continues to be a potential site for deep water transshipment ports to handle not only oil, but also containers and bulk materials such as iron ore, coal, bauxite and phosphates. Opportunities also exist for industries that can employ the special geographical or tax advantages of the Bahamas.

As the Bahamas moves towards independence there may be, as some investors fear, a period of uncertainty, but the Bahamian economy has been closely linked to that of the United States for many years and it is unlikely that over the longer term independence will change the basic nature of this relationship.

Greece Continues On Upward Path; U.S. Has New Advantages In Market

Substantial increases in industrial activity, residential construction and government spending have contributed to an estimated 8.5 percent real GNP growth for Greece in 1972.

Annual growth for the 1968-1972 period has averaged about 8 percent, and real GNP is expected to expand at an annual rate of 7 percent for the coming 15 years. A potential obstacle to this projected growth is the tightening labor market, according to the U.S. Embassy in Athens.

Inflation in 1972 has been moderate despite high liquidity and overall wage and salary increases of about 12 percent. The consumer price index rose 3.6 percent during the first seven months of the year, and wholesale prices were up 5.5 percent.

Balance of payments developments have been favorable. Rising exports and invisibles cut the current account deficit somewhat, and sharp increases in foreign deposits, supplier credits, and public borrowing boosted official reserves.

U.S. exports to Greece totaled $63 million during January-May 1972. The 64 percent increase over the same period in 1971 is mainly attributed to higher sales of machinery and transport equipment and, to a lesser extent, of chemicals and manufactured goods. Greek exports to the United States during this period amounted to $33 million, a rise of 51 percent.

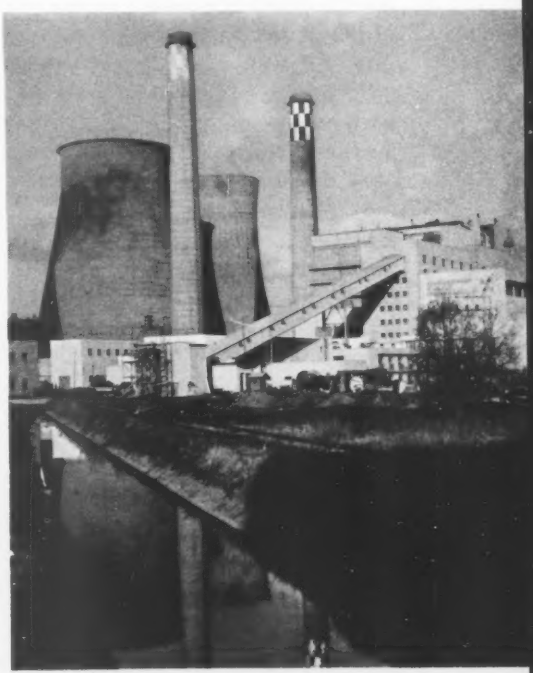
Despite the trade surplus, the United States traditionally runs a current account deficit with Greece —$153 million during January-May 1972. The overall U.S. payments deficit with Greece, including capital flows, is projected at $500 million for the year 1972. Such a substantial payments gap provides a major incentive for increasing U.S. exports.

U.S. products have an unmatched reputation for quality and durability. The key factors in increased U.S. penetration in Greece's steadily growing import market are more aggressive marketing and availability of longer term and more liberal financing.

Modernization phase

The opportunity for U.S. initiative is ripe as Greek industry enters a modernization phase and as corporate planning includes, for the first time, heavy investment in advanced technological and labor-saving equipment. The EEC countries have a natural advantage based on established commercial relationships and continued reductions in tariffs between the EEC and Greece.

The United States, however, has gained advantages over the past year: It is the only major supplier to Greece whose currency vis-a-vis



GREEK POWER PLANT—*Greece plans a number of new hydro, thermal and nuclear power plants that will open up opportunities for sale of U.S. equipment.*

the drachma has not been revalued, and the Export-Import Bank's stepped up promotional activity in Greece has resulted in increased awareness of the competitiveness of U.S. financing as well as additional working knowledge of Exim procedures.

Noteworthy opportunities

Especially noteworthy opportunities exist in the following sectors:

► The construction industry, the fastest growing sector of the economy, accounts for about $35 million in equipment imports annually. U.S. heavy earthmoving machinery dominates the market, and U.S. heavy trucks, compressors and light equipment are potentially competitive.

► Materials handling, a $14 million import market with an anticipated growth of 10 percent annually, offers excellent prospects for U.S. sales, owing principally to emphasis on automation.

► Commercial and industrial refrigeration (cooling elements) represents a 20 percent import growth market with increased processing of perishable produce.

► Efforts to stimulate domestic meat production should expand imports of breeding animals, namely, beef and dairy cattle, swine and baby chicks.

► Soybeans and tallow will be required in large quantities when the new 200,000-ton capacity crushing plant begins operation in early 1973. At that time imports of feed concentrates are expected to drop.

► The tourism explosion offers especially great opportunities for hotel and leisure time equipment, as well as management services.

Other areas where U.S. equipment should be competitive are: mining (including electrical installations); food processing and packaging; irrigation and farm machinery; medical equipment; hospital supplies; air conditioning; industrial automation and equipment control; electronic measuring and control instruments; data processing; pollution and environmental control; shipbuilding; and aircraft, including parts and maintenance equipment. In all the above activities, U.S. know-how is in demand, especially consulting, engineering and architectural services.

Greek Government regular procurement through international tenders will top $250 million this year, plus an unspecified amount of military purchases. Sophisticated equipment accounts for well over half of the total, and European, U.S. and Japanese suppliers dominate the market. The United States is particularly competitive in telecommunications, data processing and military equipment. Procurement through bilateral trading arrangements with Eastern European countries, while still significant, has been declining relative to total purchases.

Two proposed projects—the new $300 million Athens airport and the $250 million Athens subway—have generated considerable interest among American firms. Greek authorities have targeted 1980 for completion of the airport, and the award for the engineering, masterplan and design phase is expected by spring. Proposals for the subway consultant to prepare the terms of reference and the feasibility study have been filed; subsequent masterplan, design and construction phases will be tendered in the future.

In addition, programs to modernize and expand Greece's 60 seaports and 20 commercial airports offer numerous sales prospects for suppliers of sophisticated heavy port, materials handling, construction, maintenance, and navigational equipment.

The Greek Public Power Corporation has a large-scale program for new hydro, thermal and nuclear power plants. The engineering awards for four hydroelectric projects should be announced soon, and the PPC is presently evaluating declarations of interest for the preliminary consultant on the first of eight proposed 600-MW nuclear power plants. U.S. sales of diesel turbines, control equipment, and nuclear power plants will, in some instances, depend on the competitiveness of American firms vis-a-vis their European subsidiaries and licensees.

Also of interest to U.S. exporters are large irrigation and education projects financed by the IBRD.

Greece offers a growing potential market for American investment which, at about $255 million, represents nearly half of total foreign investment under the 1953 law. The duty-free entry into the EEC of products manufactured in Greece provides a major incentive for further U.S. investment. In addition, 760 firms (628 shipping and 132 commercial-industrial; 60 of them U.S.) operate under Laws 89 and 378 which grant tax exempt status to regional supervisory offices.

New foreign investments

In 1972 new foreign investments authorized by the Greek Government have totaled $92 million; $22 million are from U.S. sources, including a proposed $18 million natural gas-based sponge iron facility. While previously the Greek Government tended to encourage potential investors to include auxiliary projects in their investment applications, the trend now has veered toward requirement of a specific export commitment and of some Greek equity participation.

Pending projects which may involve U.S. sub-contractors and equipment sales include two new oil refineries to be built by shipowners Andreadis and Latsis, and a large expansion by Halyvourgiki Steel Works.

The Greek Government has targeted tourism, mining, and automotive auxiliary industries as priority investment areas. The Government foresees the doubling of hotel capacity within the next five

years and is offering extensive financing for tourist-related projects.

Commercial development of Greece's sizable mineral resources represents another primary goal, and announcements of new foreign investment approvals in alumina-aluminum and asbestos projects are expected in the near future. Additionally, the Hellenic Industrial Development Bank and the Greek Government have shown active interest in sponsoring a survey of the country's mineral potential.

The decision to establish the Renault-Peugeot, Hanomag, and Steyr assembly plants has prompted the Greek Government to encourage a series of import-saving automotive satellite industries.

Sales To Yugoslavia Should Rebound As U.S. Goods Become More Familiar

Yugoslavia's economic growth in 1972 has been about 7 percent in real terms.

Imports have not kept pace with this expansion, dropping as 1971 stabilization measures took hold. The U.S. Embassy in Belgrade notes, however, lively interest in U.S. capital goods and curiosity about U.S. consumer items which can and should be exploited.

Despite the stabilization measures total demand remains at a relatively high level. Money supply is up sharply, partly reflecting the inflow of workers' remittances from abroad. Consumption demand remains high owing to an increase of 35 percent in personal incomes during the first quarter of 1972.

Economic indicators

By the end of the second quarter the growth rate in personal incomes had fallen to around 6-8 percent. Average industrial wages in the first six months rose 18 percent. Government expenditures for the year are about 15 percent over 1971 levels. New regulations effective July 1972 limit expenditures to no more than 3 percent in excess of 1971.

Tight credit policies resulted in a cutback in plans for some large investment projects. Export demand has been at a high level with sales abroad showing impressive gains. It is anticipated that aggregate demand will decline somewhat in months to come.

Inflation continues to be a major problem with the consumer price index expected to show an increase of at least 15 percent for 1972 as a whole. Price controls have held down price rises in basic consumpton items, such as corn, wheat, flour and steel. However, consumer demand, spurred on by high wage rates, has put pressure on prices, and growth of productivity (4 percent per annum) has fallen far behind the rise in wages.

Yugoslavia's balance of payments on current account has shown marked improvement with a surplus projected for 1972 as a whole. Foreign exchange reserves rose from $340 million in January to $640 million in September, partly reflecting receipt of loans from abroad.

This has been an average year for Yugoslav agriculture, whose share in total Yugoslav GNP in 1971 was 15.1 percent. The important wheat crop of 4.8 million metric tons was 14 percent below the record 1971 crop but higher than the long-term average; about 500,000 metric tons of wheat is being imported to fill the gap. Corn production should reach an all-time high of 8.5 million tons, weather permitting.

Some corn and feed grains were imported during the summer; the Yugoslav Government is importing between 200,000-400,000 metric tons of additional feed grains for price intervention purposes.

Agricultural imports declined from $160 million to $84.4 million in the first six months of 1972. Agriculture's share in total Yugoslav imports dropped from 9.3 percent to 5.8 percent. Some $70 million worth of U.S. wheat, corn and vegetable oil purchased under CCC credit arrived in Yugoslavia during July to December.

At the end of June, U.S. exports to Yugoslavia totalled $81 million, a decrease of 28 percent from the same period of the previous year. At the same time, Yugoslav exports to the United States of $75 million represented a 53 percent gain over the first half of 1972. The U.S. export loss compares unfavorably with the overall decrease in Yugoslav imports from the convertible area of only 13 percent, this despite the substantial revaluation of the currencies of Yugoslavia's leading European suppliers.

Only a slight drop

However, the U.S. share of total Yugoslav foreign trade fell only slightly (from 6.3 to 6.2 percent). With a total trade volume of $156 million (first six months of 1972), the United States placed fourth among Yugoslavia's leading trading partners, following West Germany, Italy, and the Soviet Union.

The United States runs a considerable current account deficit with Yugoslavia, which should provide a major basis for increasing U.S. exports through intensified sale promotion activity.

The Yugoslav Government is anxious that more foreign firms avail themselves of the special provisions whereby foreign investors may control up to 49 percent of a joint enterprise. To date, some 52 joint enterprises have been formed, resulting in a total foreign investment capital inflow of $113 million.

Major provisions permit repatriation of a certain percentage of export earnings and a possibility

YUGOSLAVIA'S LARGEST SEAPORT—*The Port of Rijeka in the northern Adriatic may be handling more U.S. goods as Yugoslavs become more aware of them.*

of eventual sale of interests in the venture to a non-resident. U.S. investors (who to date have invested about $3 million in joint ventures) find that it is essential to draft a precise joint venture contract, the scope of which can be very wide.

In addition to import requirements, tight domestic credit policies have resulted in the shelving, postponement, or abandonment of some large projects where U.S. suppliers might have expected to compete. Projects which remain on the books and which offer sizable export opportunities include a $350 million power complex by Energoinvest of Sarajevo; a $310 million copper and nickel mining plus power and refining complex in Macedonia; a $400 million steel mill at Zenica; a $100 million ($40 million to be provided by IBRD) gasline in the Vojvodina; and other large public works and infrastructure projects.

It should be kept in mind that the drop in imports for the January-June period of 1972 represents a sharp decrease from a very high figure in 1971, and that consequently Yugoslavia still remains a significant importer. Extrapolating from mid-year figures, it would appear that Yugoslavia's imports for 1972 will total about $2.5-2.8 billion, of which about 75 percent will probably come from western suppliers.

As in the past, particularly favorable sales prospects can be found in those industries which earn convertible currencies through the export of goods or services. Under Yugoslav regulations, it is these export earnings which enjoy a favored and priority position in retention of hard currencies for import and other purposes.

Favored industries

Tourism: A number of American suppliers have already made profitable inroads on this market. Given Yugoslavia's ambitious plans for expansion of hotels and other tourist-oriented facilities, it appears that the future will offer very good sales potential. In addition to equipment, tourism is a field where Yugoslavs are seeking American investments and know-how to bring about expansion of facility and efficient operations.

Food Processing: Despite Yugoslavia's rapid industrial growth, food production and processing continues to occupy an extremely significant place in the domestic and export economy. In addition to being export mainstays, meats and processed package foods are of great importance to the tourist trade and to burgeoning urban markets for packaged and convenience foods. Yugoslavia's food processing and packaging industry has long been a good customer for American equipment, and it is likely that ongoing modernization and expansion in these fields will continue to provide substantial export opportunities.

Furniture Making Equipment: Embassy contacts and surveys have revealed strong potential for machinery and other products for Yugoslavia's important furniture and wood products industry. This important export earning sector is believed to offer good possibilities for American furniture-making machinery, hand tools, and glues.

In addition there seems to be lively interest in U.S. consumer goods in general. At present, these goods are scarcely familiar to the average Yugoslav customer. The Embassy, with the Department of Commerce, is currently examining possibilities for expanding sales of U.S. consumer goods via the medium of "in-store" promotional campaigns which are designed to familiarize the public with a wide variety of U.S. goods; to what extent this will stimulate additional exports from the United States will be very largely a function of price or, in some cases, novelty. Experience has shown that in markets like Yugoslavia, quality is frequently not as important a consideration to the average consumer as is price.

The general theme of the Zagreb Spring Fair in 1973 will be medical and test equipment. It is estimated that the existing market for imported laboratory and test equipment is $5.6 million, with insufficient U.S. participation due to lack of information on U.S. products.

Despite this year's disappointments for U.S. exporters, the general outlook for the longer run may be more favorable. Most of Yugoslavia's major suppliers face internal inflationary situations which appear to have deep root, and which forecast better price competitiveness of U.S. products. Though small, the Yugoslav business and public sectors are receptive, and U.S. business would do well to concentrate greater attention on cultivating this rapidly expanding market of 20 million eager consumers.

Worldwide Business Services

International trade specialists in the Department of Commerce and Foreign Service Officers in the U.S. Embassies and Consulates around the world are continually developing specific commercial opportunities through which American companies can find buyers, agents, partners or investors overseas. One of the major means for communicating these opportunities promptly and accurately to the U.S. business community is through the columns of this magazine.

The section that follows the list of commercial holidays abroad presents details about U.S.-sponsored overseas exhibits, licensing and joint venture proposals, opportunities to sell to foreign firms and government agencies and appoint agents, details on major construction and expansion projects, and notices of U.S. visits by foreign buyers.

Business Holidays In 1973 Are Listed For 135 Nations

Traveling U.S. businessmen are advised not to plan any business appointments in Italy on April 25 or Japan on Oct. 10. On those days Italian and Japanese businessmen will be observing Liberation Day and Sports Day, respectively, and commercial operations in the two countries will be at a standstill.

In fact, there are only a few days in 1973 when there will be no commercial holidays somewhere in the world that will probably close both business and government offices in the celebrating countries.

On this and following pages, commercial holidays are listed for a total of 135 countries around the world. They are presented alphabetically within five regions: Europe, Western Hemisphere, Africa, Far East, and Near East-South Asia.

The list was compiled from data assembled by Commercial Officers at U.S. Foreign Service Posts abroad.

Many commercial holidays occur on different calendar dates from year to year. Holidays and even weekends often vary from country to country, and from region to region. Some holidays do not recur from one year to the next, while other holidays may vary in duration as well as calendar date.

Throughout the list, an asterisk indicates a movable holiday.

In cases where holidays fall on Saturday or Sunday commercial establishments may be closed on the preceding Friday or following Monday.

For many countries, such as those in the Moslem world, holiday dates can be only approximate because they are based on the lunar calendar. Note that references to the Moslem holidays often vary in spelling and dates, and that businesses in many Moslem countries are closed on Fridays.

The calendar is intended as a working guide only. Corroboration of dates is suggested in final business travel planning.

Although U.S. holidays are not included in this schedule, they should also be considered when appointments are made with U.S. Commercial Officers abroad.

WESTERN HEMISPHERE

ARGENTINA — Jan. 1 (New Year's), Jan. 6 (Epiphany), *March 5-6 (Carnival), *April 19 (Holy Thurs.), *April 20 (Good Friday), May 1 (Labor Day), May 25 (Anniversary of 1810 Revolution), June 20 (Flag Day), *June 21 (Corpus Christi), July 9 (Independence Day), Aug. 15 (Assumption), Aug. 17 (Death of Gen. San Martin), Oct. 12 (Columbus Day), Nov. 1 (All Saints), Dec. 8 (Immaculate Conception), Dec. 25 (Christmas).

Nov. 10 (Day of Tradition) and Nov. 11 (St. Martin de Tours) are observed in the City of Buenos Aires.

BAHAMAS — Jan. 1 (New Year's), *April 20-23 (Easter), May 1 (Labor Day), *June 11 (Whit Monday), July 3 (Queen's Birthday), Aug. 7 (Emancipation Day), Dec. 25-26 (Christmas).

BARBADOS — Jan. 1 (New Year's), *April 20 (Good Friday), April 23 (Easter Bank Holiday), May 1 (Labor Day), *June 11 (Whit Monday), Aug. 6 (Bank Holiday), Oct. 1 (Clerks' Day), Nov. 30 (Independence Day), Dec. 25 (Christmas), Dec. 26 (Boxing Day).

BERMUDA — Jan. 1 (New Year's), *April 20 (Good Friday), May 24 (Empire Day), *June 2 (Queen's Birthday), *Aug. 2 (Cup Match), *Aug. 3 (Somers Day), Nov. 11 (Remembrance Day), Dec. 25 (Christmas), Dec. 26 (Boxing Day).

BOLIVIA—Jan. 1 (New Year's), *March 5-6 (Carnival), March 23 (Abaroa Day), *April 19 (Holy Thurs.), *April 20 (Good Friday), May 1 (Labor Day), *June 21 (Corpus Christi), Aug. 5-7 (Independence Days), Oct. 12 (Columbus Day), Nov. 2 (All Soul's), Dec. 25 (Christmas).

Regional holidays: Feb. 10 (Oruro Day); July 16 (La Paz Day); Sept. 14 (Cochabamba Day); Sept. 24 (Santa Cruz Day).

BRAZIL—Jan. 1 (New Year's), *March 5-6 (Carnival), *April 20 (Good Friday), May 1 (Labor Day), Sept. 7 (Independence Day), Nov. 2 (All Souls), Nov. 15 (Proclamation of the Republic), Dec. 25 (Christmas).

BRITISH HONDURAS — Jan. 1 (New Year's), March 9 (Baron Bliss Day), *April 20-23 (Easter), April 21 (Queen's Birthday), May 1 (Labor Day), May 24 (Commonwealth Day), Sept. 11 (National Day), Nov. 14 (Prince Charles' Birthday), Dec. 25 (Christmas), Dec. 26 (Boxing Day).

Oct. 12 (Colombus Day), Orange Walk and Corozal Districts only.

CANADA—Jan. 1 (New Year's), *April 20-23 (Easter), *May 21 (Queen's Birthday), July 1 (Dominion Day), *Sept. 3 (Labor Day), *Oct. 8 (Thanksgiving), Nov. 11 (Remembrance), Dec. 25 (Christmas), Dec. 26 (Boxing Day).

*Regional holidays: Quebec Province only—Jan. 6 (Epiphany), *March 7 (Ash Wednesday), *May 31 (Ascension), June 24 (St. John the Baptist), Nov. 1 (All Saints), Dec. 8 (Immaculate Conception); Newfoundland only —*March 17 (St. Patrick's Day), April 23 (St. George's Day), *June 26 (Discovery Day), *July 10 (Orangemen's Day); Manitoba, Ontario, Alberta, British Colombia only—*Aug. 6 (Civic Holiday).*

CHILE—Jan. 1 (New Year's), *April 20 (Good Friday), May 1 (Labor Day), May 21 (Battle of Iquique), Aug. 15 (Assumption), Sept. 18-19 (Independence), Oct. 12 (Columbus Day), Nov. 1 (All Saints), Dec. 8 (Immaculate Conception), Dec. 25 (Christmas).

COLOMBIA—Jan. 1 (New Year's), Jan. 6 (Epiphany), March 19 (St. Joseph's Day), April 19 (Maundy Thursday), April 20 (Good Friday), May 1 (Labor Day), May 31 (Ascension), June 21

(Sacred Heart), June 29 (SS. Peter and Paul), July 20 (Independence), Aug. 7 (Battle of Boyaca), Aug. 15 (Assumption), Oct. 12 (Columbus Day), Nov. 1 (All Saint's), Nov. 11 (Independence of Cartagena), Dec. 8 (Immaculate Conception), Dec. 25 (Christmas).

COSTA RICA—Jan. 1 (New Year's), *March 19 (St. Joseph's Day), April 11 (Juan Santamaria), *April 19 (Holy Thursday), *April 20 (Good Friday), May 1 (Labor Day), *June 21 (Corpus Christi), June 29 (SS. Peter and Paul), July 25 (Annexation of Guanacaste), Aug. 2 (Feast of Our Lady of the Angels), Aug. 15 (Assumption), Sept. 15 (Independence), Oct. 12 (Columbus Day), Dec. 8 (Immaculate Conception), Dec. 25 (Christmas).

Little business is carried on Dec. 15-Jan. 10.

DOMINICAN REPUBLIC—Jan. 1 (New Year's), Jan. 26 (Duarte Day), Feb. 27 (Independence Day), *April 20 (Good Friday), May 1 (Labor Day), *June 21 (Corpus Christi), Aug. 16 (Restoration Day), Sept. 24 (Our Lady of Mercy), Dec. 25 (Christmas).

ECUADOR — Jan. 1 (New Year's), *March 12-13 (Carnival), *April 20 (Good Friday), May 1 (Labor Day), May 24 (Battle of Pichincha), July 24 (Simon Bolivar's Birthday), Aug. 10 (Independence), Oct. 9 (Guayaguil Independence), Oct. 12 (Columbus Day), Nov. 2 (All Souls), Dec. 6 (Founding of Quito), Dec. 25 (Christmas).

EL SALVADOR—Jan. 1-2 (New Year's), *April 19 (Holy Thursday), *April 20 (Good Friday), May 1 (Labor Day), *Aug. 3-6 (Feasts of San Salvador), Sept. 15 (Independence Day), Oct. 12 (Columbus Day), Nov. 2 (All Souls), Nov. 5 (1st call to Independence), Dec. 25 (Christmas).

Government offices in El Salvador are closed April 16-23, Aug. 1-6, and Dec. 24-Jan. 2.

GUATEMALA — Jan. 1 (New Year's), *April 19 (Holy Thursday), *April 20 (Good Friday), May 1 (Labor Day), June 30 (Army Day), Aug. 15 (Assumption), Sept. 15 (Independence), Oct. 20 (Revolution Day), Nov. 1 (All Saints), Dec. 24-25 (Christmas), Dec. 31 (New Year's Eve).

GUYANA—Jan. 1 (New Year's), *Jan. 15 (Eid-Ul-Ahza), Feb. 23 (Republic Day), *March 19 (Phagwah), *April 16 (Youman Naubi), April 20-23 (Easter), May 1 (Labor Day), Aug. 6 (Commonwealth Day), Oct. 24 (United Nations Day), *Oct. 25 (Deepavali), Dec. 25 (Christmas), Dec. 26 (Boxing Day).

HAITI—Jan. 1 (New Year's and Independence Day), Jan. 2 (Heroes Day), *March 6 (Mardi-Gras), April 14 (Pan American Day), *April 19 (Holy Thursday), *April 20 (Good Friday), May 3 (Agriculture and Labor Day), May 18 (Ascension and Flag and University Day), May 22 (National Sovereignty Day), *June 21 (Corpus Christi), June 22 (Presidency for Life Day), Aug. 15 (Assumption), Sept. 22 (Anniversary of Pres. Duvalier's taking oath), Oct. 17 (Anniversary of death of Dessalines), Nov. 1 (All Saints), Nov. 2 (All Souls), Nov. 18 (Anniversary of Battle of Vertieres, Armed Forces Day), Dec. 5 (Anniversary of Discovery of Haiti), Dec. 25 (Christmas).

HONDURAS — Jan. 1 (New Year's), *April 14 (Americas' Day), *April 19 (Holy Thursday), *April 20 (Good Friday), May 1 (Labor Day), Sept. 15 (Independence Day), Oct. 3 (Morazan), Oct. 12 (Columbus), Oct. 21 (Armed Forces Day), Dec. 25 (Christmas).

JAMAICA—Jan. 1 (New Year's), *March 7 (Ash Wednesday), *April 20-23 (Easter), May 23 (Labor Day), *Aug. 6 (Independence Day), *Oct. 15 (National Heroes Day), Dec. 25 (Christmas), Dec. 26 (Boxing Day).

MEXICO—Jan. 1 (New Year's Day), Feb. 5 (Promulgation of Constitution), March 21 (Juarez's Birthday), *April 19 (Holy Thursday), *April 20 (Good Friday), May 1 (Labor Day), May 5 (Battle of Puebla), Sept. 15-16 (Independence), Oct. 12 (Columbus Day), Nov. 2 (All Souls' Day), Nov. 20 (Anniversary of the Revolution), Dec. 12 (Our Lady of Guadalupe), Dec. 25 (Christmas).

The last week in May, and Dec. 20-Jan. 6 are traditional vacation periods for government employees.

NETHERLANDS ANTILLES — Jan. 1 (New Year's), *April 20-23 (Easter), April 30 (Queen's Birthday), May 1 (Labor Day), *May 31 (Ascension), *June 11 (Whit Monday), Dec. 15 (Statute Day), Dec. 25 (Christmas), Dec. 26 (Boxing Day).

NICARAGUA — Jan. 1 (New Year's), *April 17-23 (Holy Week), May 1 (Labor Day), July 14 (Abrogation of the Bryan-Chamorro Treaty), Sept. 14 (Battle of San Jacinto), Sept. 15 (Independence), Oct. 12 (Columbus Day), Nov. 2 (All Saints), Dec. 8 (Immaculate Conception), Dec. 25 (Christmas).

Aug. 1 and Aug. 10 are holidays in Managua.

PANAMA—Jan. 1 (New Year's), Jan. 9 (Day of the Martyrs), *March 6 (Mardi Gras), *April 20 (Good Friday), May 1 (Labor Day), Oct. 11 (Anniversary of the Revolution), Nov. 3 (Independence), Dec. 8 (Mother's Day), Dec. 25 (Christmas Day).

In addition, the following limited holiday observances are usually scheduled: Jan. 2 (Mourning for assassinated President Reman), Aug. 15 (Founding of Panama City) observed only in District of Panama, Nov. 5 (Founding of city of Colon) observed only in District of Colon.

PARAGUAY—Jan. 1 (New Year's), Feb. 3 (St. Blaise's Day), March 1 (Heroes' Day), *April 19 (Holy Thursday), *April 20 (Good Friday), May 1 (Labor Day), May 14-15 (Independence Day), June 12 (Peace of Chaco), *June 21 (Corpus Christi), Aug. 15 (Founding of Asuncion), Aug. 25 (Constitution Day), Sept. 29 (Victory of Boqueron), Oct. 12 (Columbus Day), Nov. 1 (All Saints' Day), Dec. 8 (Our Lady of Caacupe), Dec. 25 (Christmas).

PERU—Jan. 1 (New Year's), *April 19 half-day (Holy Thursday), *April 20 (Good Friday), May 1 (Labor Day), June 29 (SS. Peter & Paul), July 28-29 (Independence Days), Aug. 30 (St. Rose of Lima), Oct. 9 (National Day), Nov. 1 (All Saints), Dec. 8 (Immaculate Conception), Dec. 25 (Christmas).

SURINAM — Jan. 1 (New Year's), *March 19 est. (Holi Phagwa), *April 20-23 (Easter), April 30 (Queen's Birthday), May 1 (Labor Day), July 1-2 (Emancipation Day), *Oct. 29 est. (Id Ul Fitre), Dec. 25 (Christmas), Dec. 26 (Boxing Day).

TRINIDAD & TOBAGO—Jan. 1 (New Year's Day), *April 20-23 (Easter) *June 11 (Whit Monday), June 19 (Labor Day), *June 21 (Corpus Christi), *Aug. 6 (Discovery Day), Aug. 31 (Independence), Dec. 25 (Christmas), Dec. 26 (Boxing Day).

*Eid ul Fitr (Moslem holiday) is celebrated sometime between Oct. and March, and Divali (Hindu holiday) is celebrated sometime in Oct.-Nov., depending upon lunar phases. Little business is conducted during the National Carnival, *March 5-6.*

URUGUAY—Jan. 1 (New Year's), Jan. 6 (Epiphany), *March 4-6 (Carnival), *April 15-21 (Holy Week), May 1 (Labor Day), May 18 (Battle of Las Piedras), June 19 (Artigas' Birthday), July 18 (Constitution), Aug. 25 (Independence), Oct. 12 (Columbus Day), Nov. 2 (All Souls), Dec. 8 (Day of the Beaches), Dec. 25 (Christmas).

Business firms and much of the industrial community will be closed March 4-15 and April 15-26.

VENEZUELA—Jan. 1 (New Year's), Jan. 6 (Epiphany), *March 5-6 (Carnival), *April 18 half-day (Holy Wednesday), April 19 (Declaration of Independence), *April 20 (Good Friday), May 1 (Labor Day), *May 31 (Ascension), *June 21 (Corpus Christi), June 24 (Battle of Carabobo), June 29 (SS. Peter and Paul), July 5 (Independence), July 24 (Bolivar's Birthday), Aug. 15 (Assumption), Oct. 12 (Columbus Day), Nov. 1 (All Saints), Dec. 8 (Immaculate Conception), Dec. 24 half-day (Christmas Eve), Dec. 25 (Christmas), Dec. 31 half-day (New Year's Eve).

Regional holidays: Feb. 3 (Sucre's Birthday), Cumana, State of Sucre; March 10 (Vargas' Day), La Guaira; March 19 (St. Joseph), Puerto Cabello, State of Carabobo; Nov. 18 (Chiquinquira Day), Maracaibo, State of Zulia.

EUROPE

AUSTRIA—Jan. 1 (New Year's), Jan. 6 (Epiphany), *April 23 (Easter Monday), May 1 (Labor Day), *May 31 (Ascension), *June 11 (Whit Monday), *June 21 (Corpus Christi), Aug. 15 (Assumption), Oct. 26 (National Holiday), Nov. 1 (All Saints), Dec. 8 (Immaculate Conception), Dec. 24 (Bank Holiday), Dec. 25 (Christmas), Dec. 26 (St. Stephan's), Dec. 31 (Bank Holiday).

Regional holidays: March 19 (St. Joseph), Carinthia, Styria, Tyrol, Vorarlberg; Sept. 24 (St. Rupert), Salzburg; Oct. 10 (Plebiscite Anniversary), Carinthia; Nov. 11 (St. Martin), Burgenland; Nov. 15 (St. Leopold), Lower Austria, Upper Austria, Vienna. Regional holidays are mainly observed by schools and farmers. Some public offices and a few business enterprises may also be closed but their number is decreasing from year to year.

Also, many businesses will be closed on the following days which are part of long weekends: April 30, June 1, June 22, Nov. 2, Dec. 24, and Dec. 31.

BELGIUM—Jan. 1 (New Year's), *April 23 (Easter Monday), May 1 (Labor Day), *May 31 (Ascension), *June 11 (Whit Monday), July 21 (National Holiday), Aug. 15 (Assumption), Nov. 1 (All Saints), Nov. 2 (All Souls), Nov. 11 (Armistice Day), Nov. 15 (Dynasty—King's birthday), Dec. 25 (Christmas), Dec. 26 (Boxing Day).

All metallurgical plants are closed Dec. 2, the traditional holiday of St. Eloi, patron saint of metallurgical workers.

BULGARIA—Jan. 1-2 (New Year's), May 1-2 (Labor Day), May 24 (Cyril and Methodius Day), Sept. 9-10 (Liberation Day), Nov. 7 (Oct. Revolution Day).

The day preceding an official holiday is only a half-day.

CZECHOSLOVAKIA — Jan. 1 (New Year's), *April 23 (Easter Monday), May 1 (Labor Day), May 9 (1945 Liberation), Oct. 28 (National Day), Dec. 25-26 (Christmas).

DENMARK — Jan. 1 (New Year's), *April 19-23 (Easter), *May 18 (Prayer Day), *May 31 (Ascension), *June 11 (Whit Monday), Dec. 25-26 (Christmas).

Most industries and banks close at noon on May 1 and June 5.

ENGLAND—*Apr. 20-23 (Easter), *May 28 (Spring Holiday), *Aug. 27 (Summer Holiday), Dec. 25 (Christmas), Dec. 26 (Boxing Day).

In addition, the Channel Islands observe May 9 (Liberation Day).

Note separate entries for Scotland, N. Ireland and Wales.

FINLAND—Jan. 1 (New Year's), Jan. 6 (Epiphany), *April 20-23 (Easter), May 1 (May Day), *May 26 (Ascension), *June 11 (Whit Monday), *June 23 (Midsummer's Day), *Nov. 3 (All Saints), Dec. 6 (Independence Day), Dec. 25-26 (Christmas). Banks are closed June 23 and Dec. 24.

FRANCE—Jan. 1 (New Year's), *April 23 (Easter Monday), May 1 (Labor Day), *May 31 (Ascension), *June 11 (Whit or Pentecost Monday), July 14 (Bastille Day), Aug. 15 (Assumption), Nov. 1 (All Saints), Nov 11 (Veterans Day), Dec. 25 (Christmas).

August is regarded in France as a poor month for conducting business, as most firms are closed for vacation.

GERMANY—Jan. 1 (New Year's), *April 20-23 (Easter), May 1 (Labor Day), *May 31 (Ascension), *June 11 (Whit Monday), June 17 (Day of German Unity), *Nov. 21 (Repentance Day), Dec. 24 half-day (Christmas Eve), Dec. 25-26 (Christmas).

*Regional holidays: Jan. 6 (Epiphany), Baden-Wuerttemberg, Bavaria; *March 5 (Rose Monday), Bonn, Cologne, Duesseldorf, Mainz, and other Catholic areas celebrating Carnival; *June 21 (Corpus Christi), Hesse, North Rhine-Westphalia, Rhineland-Palatinate, Saarland, and Catholic areas of Baden-Wuerttemberg and Bavaria; Aug. 15 (Assumption), Saarland, Catholic areas of Bavaria; Nov. 1 (All Saint's Day), Baden-Wuerttemberg, North Rhine-Westphalia, Rhineland-Palatinate, Saarland, Catholic areas of Bavaria.*

GREECE—Jan. 1 (New Year's), Jan. 6 (Epiphany), *March 12 (Kathara Deftera), March 25 (Independence), April 21 (Panhellenic National Day), *April 19-23 (Easter), May 1 (May Day), May 21 (King's Name Day), *June 18 (Whit Monday), June 29 (SS. Peter and Paul), Aug. 15 (Assumption), Sept. 14 (Holy Cross), Oct. 28 (OXI Day), Dec. 24-25 (Christmas), Dec. 26 (Boxing Day), Dec. 31 (New Year's—half holiday).

Regional holidays: March 7 (Dodecanese Accession Day), celebrated only on the Dedocanese Islands; Oct. 4 (Liberation of Xanthi), only in Xanthi; Oct. 26 (St. Demitrios), only in Thessalonika; Nov. 30 (St. Andreas'), only in Patras.

HUNGARY — Jan. 1 (New Year's), April 4 (Liberation Day), *April 23 (Easter Monday), May 1 (Labor Day), Aug. 20 (Constitution Day), Nov. 7 (Russian Revolution Day), Dec. 25 (Christmas), Dec. 26 (Boxing Day).

ICELAND—Jan. 1 (New Year's), *April 19 (First day of summer), *April 19-23 (Easter), May 1 (Labor Day), *May 31 (Ascension), *June 11 (Whit Monday), June 17 (Anniversary of Proclamation of Republic—1944), *Aug. 6 (Bank Holiday), Dec. 24 half-day (Christmas Eve), Dec. 25 (Christmas), Dec. 31 (New Year's Eve, half day).

IRELAND—Jan. 1 (banks only), March 17 (St. Patrick's Day), *April 20-23 (Easter), June 4 (bank holiday), Aug. 6 (bank holiday), Dec. 25 (Christmas), Dec. 26 (St. Stephen).

ITALY—Jan. 1 (New Year's), Jan. 6 (Epiphany), *April 23 (Easter Monday), April 25 (Liberation Day), May 1 (Labor Day), *May 31 (Ascension), June 2 (Founding of the Republic), *June 21 (Corpus Christi), Aug. 15 (Assumption), Nov. 1 (All Saints), Nov. 4 (National Unity Day), Dec. 8 (Immaculate Conception), Dec. 25 (Christmas), Dec. 26 (St. Stephen's).

Local holidays: June 24 (St. John), celebrated in Turin, Florence, Genoa; June 29 (SS. Peter and Paul) Rome only; July 15 (St. Rosalia), Palermo only; Sept. 19 (St. Gennaro), Naples only; Nov. 3 (St. Giusto), Trieste only; Dec. 7 (St. Ambrose), Milan only.

The month of August is a very poor business period as many firms are closed for vacation.

LIECHTENSTEIN — Jan. 1 (New Year's), Jan. 6 (Epiphany), Feb. 2 (Candlemas), March 19 (St. Joseph's Day), *April 20-23 (Easter), *May 31 (Ascension), *June 11 (Whit Monday), *June 21 (Corpus Christi), Aug. 15 (Assumption), Sept. 8 (Nativity), Nov. 1 (All Saints), Dec. 3 (St. Luke's Day), Dec. 8 (Immaculate Conception), Dec. 25-26 (Christmas).

LUXEMBOURG—Jan. 1 (New Year's), *March 5 (Shrove Monday), *April 23 (Easter Monday), May 1 (Labor Day), *May 31 (Ascension), *June 11 (Whit Monday), June 23 (Grand Duke's Birthday), Aug. 15 (Assumption Day), Sept 3 (Fall Fair—Schobermess), Nov. 1 (All Saints), Dec. 8 (Immaculate Conception), Dec. 25 (Christmas).

MALTA—Jan. 1 (New Year's), Jan. 6 (Epiphany), *Feb. 10 (St. Paul's Shipwreck), March 19 (St. Joseph), *April 20 (Good Friday), May 1 (St. Joseph the Worker), *May 31 (Ascension), *June 21 (Corpus Christi), June 29 (SS. Peter and Paul), Aug. 15 (Assumption), Sept. 8 (National Day), Nov. 1 (All Saints), Dec. 8 (Immaculate Conception), Dec. 25 (Christmas).

MONACO—Jan. 1 (New Year's), Jan. 27 (Sainte Devote), *March 5 est. (Mi-Careme), *April 20 (Good Friday—half holiday), *April 23 (Easter Monday), May 1 (May Day), *May 31 (Ascension), *June 11 (Pentecost Monday), *May 28 est. (Fete-Dieu), Aug. 15 (Assumption), Nov. 1 (All Saints), Nov. 19 (National Holiday), Dec. 8 (Immaculate Conception), Dec. 25 (Christmas).

NETHERLANDS—Jan. 1 (New Year's), April 30 (Queen's Birthday), *May 31 (Ascension), *June 11 (Whit Monday), Afternoon of Dec. 5 (St. Nicholas Eve), Dec. 25-26 (Christmas).

June 30-July 14 is summer vacation for the building industry and textile industry. July 14-28 is summer vacation for the metalworking industry.

N. IRELAND—March 17 (St. Patrick's), April 20-23 (Easter), *May 28 (Spring Holiday), July 12-13 (Orangeman's Day), Aug. 27 (Summer Holiday), Dec. 25 (Christmas), Dec. 26 (Boxing Day).

NORWAY—Jan. 1 (New Year's), April 20-23 (Easter), May 1 (Labor Day), May 17 (Constitution Day), *May 31 (Ascension), *June 11 (Whit Monday), Dec. 25-26 (Christmas).

POLAND—Jan. 1 (New Year's), *April 23 (Easter Monday), May 1 (Labor Day), *June 21 (Corpus Christi), July 22 (National Day), Nov. 1 (All Saints), Dec. 25 (Christmas), Dec. 26 (Boxing Day).

PORTUGAL—Jan. 1 (New Year's), April 20-21 (Easter), June 10 (Portugal Day), June 13 (St. Antonio, Lisbon only), *June 21 (Corpus Christi), June 24 (St. Joao's, Oporto only), Aug 15 (Assumption), Oct. 5 (Proclamation of Portuguese Republic), Nov. 1 (All Saints), Dec. 1 (Restoration of Portuguese Independence), Dec. 8 (Immaculate Conception), Dec. 24-25 (Christmas).

ROMANIA — Jan. 1-2 (New Year's), May 1-2 (Labor Day), Aug. 23-24 (National Day).

SCOTLAND—Jan. 1 (New Year's), *May 7 (Spring Holiday), *Aug. 6 (Summer (Holiday), Dec. 25 (Christmas).

Other holidays are observed in various cities and towns.

SPAIN—Jan. 1 (New Year's), Jan. 6 (Epiphany), March 19 (St. Joseph), April 19-20 (Easter), May 1 (Labor Day), *May 31 (Ascension), *June 21 (Corpus Christi), June 29 (SS. Peter and Paul), July 18 (National Uprising Day), July 25 (Santiago Day), Aug. 15 (Assumption), Oct. 1 (Day of Caudillo, Government holiday only), Oct. 12 (Columbus Day), Nov. 1 (All Saints), Dec. 8 (Immaculate Conception), Dec. 25 (Christmas).

*Local holidays: May 15 (St. Isidro) is celebrated in Madrid only; *April 23 (Easter Monday), June 24 (St. John the Baptist), Sept. 24 (Our Lady of Mercy), are celebrated in Barcelona only; June 19 (Liberation Day), and July 31 (St. Ignatius Day), are observed only in Bilbao. Saturdays, until 2 p.m., are working days in Spain.*

SWEDEN—Jan. 1 (New Year's), Jan. 6 (Epiphany), *April 20-23 (Easter),

May 1 (Labor Day), *May 31 (Ascension), *June 11 (Whit Monday), *June 22-23 (Mid-summer), *Nov. 3 (All Saints), Dec. 25-26 (Christmas).

Banks, offices and government and commercial institutions will close early on Jan. 5, April 19, May 30 and Nov. 2.

SWITZERLAND—Jan. 1 (New Year's), Jan. 2 (Barzelistag), April 20-23 Easter), *May 31 (Ascension), June 11 (Whit Monday), Aug. 1 (National Day), Dec. 24 (Christmas Eve, half day), Dec. 25 (Christmas), Dec. 26 (St. Stephen's).

Good Friday will only be partly observed in the Cantons of Jicino, Valais, Fribourg, Lucerne, Unterwalden, Schwyz, Uri, and St. Gallen.

Thirty other days are observed locally, of which the following are noteworthy for major business centers: March 12-14 (Carnival), Basel; April 9 (Sechselauten), Zurich; May 1 (Labor Day afternoon), major cities; Sept. 6 (Thanksgiving), Geneva; Sept. 10 (Knabenschiessen), Zurich; Dec. 31 (Restoration Day), Geneva.

U.S.S.R.—Jan. 1 (New Year's), March 8 (Women's Day), May 1-2 (May Day), May 9 (Victory Day), Nov. 7-8 (October Revolution), Dec. 5 (Constitution Day).

WALES—April 20-23 (Easter), May 28 (Spring Holiday), Aug. 27 (Summer Holiday), Dec. 25 (Christmas), Dec. 26 (Boxing Day-Bank Holiday).

YUGOSLAVIA—Jan. 1-2 (New Year's), May 1-2 (Int'l Labor Day), July 4 (Fighters Day), Nov. 29-30 (Day of the Republic).

Regional holidays: July 7 (Liberation Day—Serbia), July 13 (Liberation Day — Montenegro), July 22 (Liberation Day—Slovenia), July 27 (Liberation Day—Croatia & Bosnia-Hercegovina), Oct. 11 (Liberation Day —Macedonia).

AFRICA

Note that the country reports in this and following sections reflect varying local spellings as well as varying local dates.

ALGERIA—Jan. 1 (New Year's), *Jan. 15-16 (Aid el Adha), *Feb. 4 (Muharram), *Feb. 13 (Aachoura), *April 15 (Mouloud), May 1 (May Day), June 19 (Anniversary of 19th June), July 5 (Independence), Oct. 28-29 (Aid el Fitr), Nov. 1 (Anniversary of the start of the Revolution).

ANGOLA—Jan. 1 (New Year's), June 10 (Corpus Christi), Aug. 15 (Restoration Day), Oct. 5 (Republic Day), Nov. 1 (All Saints), Dec. 1 (Independence), Dec. 8 (Immaculate Conception), Dec. 25 (Christmas).

BOTSWANA—Jan. 1 (New Year's), *April 20-23 (Easter), May 28 (President's Day), *May 31 (Ascension Day), *June 4 (Commonwealth Day), *June 11 (Whit Monday), *Aug. 6 (Bank Holiday), Oct. 1 (Independence), Oct. 24 (United Nations Day), Dec. 25 (Christmas), Dec. 26 (Boxing Day).

BURUNDI—Jan. 1 (New Year's), *April 23 (Easter Monday), May 1 (Labor Day), *May 31 (Ascension), July 1 (Independence), Aug. 15 (Assumption), Sept. 18 (Victory of Uprona), Oct. 13 (Assassination of National Hero), Nov. 1 (All Saints' Day), Nov. 28 (Anniversary of Republic), Dec. 25 (Christmas).

CAMEROON—Jan. 1 (Independence), Jan. 16 (Feast of the Lamb), Feb. 1 (Youth Day), *April 20-23 (Easter), May 1 (Labor Day), May 20 (National Day), June 11 (Monday after Pentecost), Aug. 15 (Assumption), Oct. 1 (Reunification Day), Nov. 1 (All Saints), Dec. 10 (Human Rights Day), Dec. 25 (Christmas).

There will be a holiday at the end of Ramadan, about the end of October.

CENTRAL AFRICAN REPUBLIC—Jan. 1 (New Year's), March 29 (Anniversary of Death of 1st President, Barthelemy Boganda), *April 23 (Easter Monday), May 1 (Labor Day), May 15 (Anniversary of Installation of 1st Government), *May 31 (Ascension), *June 11 (Pentecost), Aug. 14 (Independence), Aug. 15 (Assumption), Nov. 1 (All Saints), Nov. 10 (Anniversary of 1st Election of Boganda to French Nat'l Assembly), Nov. 11 (Armistice), Dec. 1 (Republic), Dec. 25 (Christmas).

CHAD—Jan. 1 (New Year's), *Jan. 11 (National Day), *Feb. 15 (Aid-El-Kabir, 70 days after Ramadan), *April 23 (Easter Monday), May 1 (Labor Day), May 25 (African Continent Liberation Day), *May 31 (Ascension), *June 10-11 (Pentecost), June or July (Mouloud el Nebi), Aug. 11 (Independence), Aug. 15 (Assumption), Nov. 1 (All Saints), Nov. 28 (Proclamation of the Republic), Dec. 25 (Christmas), sometime in *Dec. (Aid el Saguir—end of Ramadan).

DAHOMEY—Jan. 1 (New Year's), *Feb. (El Kabir), *April 23 (Easter Monday), May 1 (May Day), *May 31 (Ascension), *June 11 (Pentecost), Aug. 1 (Independence), Aug. 15 (Assumption), Nov. 1 (All Saints), *Nov. (End of Ramadan), Dec. 25 (Christmas).

ETHIOPIA—*Jan. 19 (Epiphany), Feb. 19 (Martyrs of 12th Yekatit), *March 2 (Victory of the Battle of Adua), *April 27-30 (Easter), July 23 (Emperor's birthday), Aug. 22 (Assumption), Sept. 11 (Ethiopian New Year), Sept. 27 (Maskal), Nov. 2 (Coronation Day).

Dates of Christmas and Easter holidays vary from those listed for other countries because Ethiopian calendar differs from Gregorian.

GABON—Jan. 1 (New Year's), March 12 (Renovation Day), *April 23 (Easter Monday), May 1 (Labor Day), *May 31 (Ascension Day), June 11 (Whit Monday), Aug. 15 (Assumption), Aug. 17 (Independence), Nov. 1 (All Saints' Day), Dec. 4 (death of Leon M'Ba), Dec. 25 (Christmas).

GAMBIA—Jan. 1 (New Year's), Feb. 18 (National Day), *April 20-23 (Easter), Aug. 15 (Assumption), Dec. 25 (Christmas), Dec. 26 (Boxing Day).

The dates of Id-El-Kabir, Id-El-Maulud, and Id-El-Fitr will depend on the lunar calendar.

GHANA—Jan. 1 (New Year's), Jan. 13 (National Redemption Day), March 6 (Independence Day), *April 20-23 (Easter), *Aug. 6 (Bank Holiday), Dec. 25 (Christmas), Dec. 26 (Boxing Day).

GUINEA—Jan. 1 (New Year's), *Jan. 15 est. (Tabaski), May 1 (Labor Day), May 14 (Anniversary of Parti Democratique de Guinee), Sept. 28 (Referendum Day), Oct. 2 (Independence), *Nov. 9 est. (End of Ramadan), Nov. 22 (Anniversary of the Invasion of Guinea), Dec. 25 (Christmas).

IVORY COAST—Jan. 1 (New Year's), *Jan. 14 est. (Tabaski), *April 20-23 (Easter), May 1 (Labor Day), *May 31 (Ascension), *June 11 (Pentecost), Aug. 7 (Independence), Aug. 15 (Assumption), *Oct. 1 est. (End of Ramadan), Nov. 1 (All Saints), Dec. 25 (Christmas).

KENYA—Jan. 1 (New Year's), *April 20-23 (Easter), May 1 (Labor Day), June 1 (Madaraka Day), *Oct. 20 (Kenyatta Day), *Nov. 8 est. (Idd-Ul-Fitr), Dec. 12 (Independence Day), Dec. 25 (Christmas), Dec. 26 (Boxing Day).

LESOTHO—Jan. 1 (New Year's), March 12 (Moshoeshoe's Day), *April 20-23 (Easter), May 2 (King's Birthday), May 24 (Commonwealth Day), *May 31 (Ascension), *July 2 (Family Day), *Aug. 6 (National Tree Planting Day), *Oct. 1 (National Sports Day), Oct. 4 (Independence), Dec. 25 (Christmas), Dec. 26 (Boxing Day).

LIBERIA—Jan. 1 (New Year's), Jan. 7 (Pioneers' Day), Feb. 11 (Armed Forces Day), *March 14 (Decoration Day), March 15 (J. J. Roberts Day), *April 13 (Day of Fasting & Prayer), May 14 (Unification Day), May 25 (Africa Liberation Day), July 26 (Independence), Aug. 24 (Flag Day), *Nov. 1 (Thanksgiving Day), Nov. 29 (President Tubman's Birthday), Dec. 1 (Matilda Newport Day), Dec. 25 (Christmas).

Most offices will be closed Dec. 25 through Jan. 10.

LIBYA—Jan. 14-17 est. (Id al-Adha), *Feb. 4 (Hejira New Year), *Feb. 13 (Ashura Day), March 8 (National Day), March 28 (Evacuation Day), *April 14 (Prophet's Day), May 25 (Africa Day), June 11 (Evacuation Day), July 23 (Egyptian National Day), *Aug. 23 (Alisraa Wal Mearaage), Sept. 1 (Libyan Revolution Day), *Sept. 21 est. (Nesf Shaban), Oct. 7 (Italian Evacuation Day), Oct. 27-29 est. (Id al-Fitr), Nov. 22 (Commemoration of Battle of Al-Hani).

MALAGASY REPUBLIC—Jan. 1 (New Year's), March 29 (Commemoration of the 1947 Revolt), *April 23 (Easter Monday), May 1 (Labor Day), *May 27 (Africa Liberation Day), *May 31 (Ascension Day), *June 11 (Whit Monday), June 26 (Independence Day), Aug. 15 (Assumption), Nov. 1 (All Saints), Dec. 25 (Christmas).

MALAWI—Jan. 1 (New Year's), March 3 (Martyr's Day), *April 20-23 (Easter), May 14 (Kamuzu Day), July 6 (Republic Day), Aug. 6 (Bank Holiday), Oct. 17 (Mother's Day), Dec. 25 (Christmas), Dec. 26 (Boxing Day).

MALI—Jan. 1 (New Year's), *Jan. 10 est. (Tabaski), Jan. 20 (Army Day), *April 23 (Easter Monday), *April 23 est. (Mouloud), May 1 (Labor Day), May 25 (Day of Africa), Sept. 22 (Independence), *Nov. 8 est. (Ramadan), Nov. 19 (Liberation), Dec. 25 (Christmas).

MAURITANIA—Jan. 1 (New Year's), *Mid-Jan. est. (Id el Adha), *Mid-April est. (Id el Mouloud), May 1 (Labor Day), May 25 (OAU Day), *Early Nov. est. (Id el Fitr), Nov. 28 Independence), Dec. 25 (Christmas).

MAURITIUS—Jan. 1-2 (New Year), *Jan. 28 (Id-El-Adha), Jan. 30 (Cavadee), Feb. 13 (Maha Shivaratree), *Feb. 15 (Chinese Spring Festival), Feb. 28 (Holi), March 12 (Independence), March 16 (Ougadi). April 13 (Virusha Piruppu), April 23 (Easter Monday), *April 26 (Yaum-Un-Nabi), May 1 (Labor Day), Aug. 15 (Assumption Day), *Sept. 11 (Ganesh Chathurthi), *Sept. 22 (Festival of Mid Autumn), Oct. 24 (United Nations Day), Nov. 1 (All Saints Day), *Nov. 5 (Divali), *Nov. 9 (Eid-Ul-Fitr), *Nov. 20 (Ganga Asnan), Dec. 25 (Christmas), Dec. 26 (Boxing Day).

MOROCCO — Jan. 1 (New Year's), *Jan. 15 est. (Aid El Kebir), *Feb. 4 est. (Moslem New Year), March 3 (Throne Day), *April 14 est. (Mouloud), *April 17 (Passover), *April 23 (Easter Monday), May 1 (Labor Day), *May 31 (Ascension), *June 11 (Whit Monday), Aug. 15 (Assumption), *Sept. 27 (Rosh Hashana), *Oct. 7 (Yom Kippur), *Oct 25 est. (Aid El Fitr), Nov. 1 (All Saints), Nov. 18 (Independence), Dec. 25 (Christmas).

During the Moslem month of Ramadan, about Sept. 25-Oct. 24, banks are open from 9:30 a.m. to 2 p.m., Moroccan Gov't offices, 9 a.m. to 2 p.m. The above list includes Moslem, Christian and Jewish holidays which are not all observed by all businesses or government agencies.

MOZAMBIQUE—Jan. 1 (New Year's), *June 21 (Corpus Christi), June 10 (Portugal Day), Aug. 15 (Assumption), Oct. 5 (Republic Day), Nov. 1 (All Saints), Dec. 1 (Independence), Dec. 8 (Immaculate Conception), Dec. 25 (Christmas).

NIGER—Jan. 1 (New Year's), *Third week in Jan. (Tabaski), *Third week in April (Mouloud), *April 23 (Easter Monday), May 1 (Labor Day), *May 31 (Ascension), *June 11 (Pentecost Monday), Aug. 3 (Independence), Aug. 15 (Assumption), *Fourth week in Oct. (Korite), *Nov. 1 (All Saints), Dec. 18 (Republic Day), Dec. 25 (Christmas).

NIGERIA—Jan. 1 (New Year's), *Jan. 13-15 (Id-El-Kabir), *April 16 (Id-El-Maulud), *April 20-23 (Easter), Oct. 1 (National Day), *Oct. 27-29 (Id-El-Fitr), Dec. 25 (Christmas), Dec. 26 (Boxing Day).

RWANDA—Jan. 1 (New Year's), Jan. 29 (Democracy Day), *April 23 (Easter Monday), May 1 (Labor Day), *May 31 (Ascension), *June 11 (Pentecost), July 2 (Independence), Aug. 15 (Assumption), Sept. 3 (President's Day), Sept. 25 (National Assembly Day), Oct. 26 (Gov't Day), Nov. 1 (All Saints), Nov. 24 (Justice Day), Dec. 25 (Christmas).

SENEGAL—Jan. 1 (New Year's), *Jan. 15 est. (Tabaski), April 4 (Independence), *April 15 est. (Mouloud), *April 23 (Easter Monday), May 1 (Labor Day), *May 31 (Ascension), *June 11 (Pentecost), July 14 (African Community Day), Aug. 15 (Assumption), *Oct. 28 est. (Korite), Nov. 1 (All Saints), Dec. 25 (Christmas).

SIERRA LEONE—Jan. 1 (New Year's), *April 20-23 (Easter), April 27 (Independence), *June 11 (Whit Monday), Aug. 7 (Bank Holiday), Dec. 25 (Christmas), Dec. 26 (Boxing Day).

In addition, three movable Moslem holidays, the dates of which cannot be fixed in advance: Eid-Ul-Fitri, Eid-Ul-Adha, Moulid-Un-Nabi.

SOMALIA—2 days late January (Idd El-Fitr), May 1 (Labor Day), sometime in May (Prophet's Birthday), June 26-July 1 (Independence), 2 days mid-Oct. (Idd El-Adha), Oct. 21-22 (Anniversary of October Revolution).

All businesses are closed on Friday.

SOUTH AFRICA—Jan. 1 (New Year's), *April 6 (Van Riebeeck Day), *April 20-23 (Easter), *May 31-June 1 (Republic Day, Ascension), *July 9 (Family Day), *Sept. 3 (Settlers Day), Oct. 10 (Kruger Day), Dec. 17 (Day of the Covenant), Dec. 25 (Christmas), Dec. 26 (Boxing Day).

SUDAN—Jan. 1 (Independence and New Year's), *Jan. 15-18 (Kurban Bairam), *Feb. 4 (Moslem New Year), March 3 (Southern Accord Anniversary), *April 15 (Prophet's Birthday), *April 30 (Sham al-Naseem), May 25 (May Revolution), *Oct. 26-29 (Ramadan Bairam), Dec. 25 (Christmas).

Businesses are closed on Fridays.

SWAZILAND—Jan. 1 (New Year's), *April 20-23 (Easter), April 25 (Flag Day), May 31 (Ascension Day), June 11 (Commonwealth Day), July 22 (King's Birthday), *Aug. 27 (Reed Dance), Sept. 6 (Independence), Oct. 24 (United Nations Day), Dec. 25 (Christmas), Dec. 26 (Boxing Day), sometime in Dec. (Incwala).

TANZANIA—Jan. 12 (Zanzibar Revolution Day), Jan. 16 est. (Id-el-Haj), *April 16 est. (Mouloud Day), *April 20-23 (Easter), April 26 (Union Day), May 1 (Int'l Workers Day), July 7 (Saba Saba Day), *Oct. 28 or 29 est. (Id-el-Fitr), Dec. 9 (Independence & Republic Day), Dec. 25 (Christmas).

TOGO—Jan. 1 (New Year's), Jan. 13 (National Liberation Day), *April 23 (Easter Monday), April 27 (Independence), May 1 (Labor Day), *May 31 (Ascension Day), *June 11 (Whit Monday), Aug. 15 (Assumption), Nov. 1 (All Saints), Dec. 25 (Christmas).

TUNISIA—Jan. 1 (New Year's), *Jan. 14 est. (Aid el Kebir), Jan. 18 (Remembrance Day), *Jan. 26 (Aid El Kebir), *Feb. 4 est. (Ras El Am El Hijri), March 20 (Independence), April 9 (Martyr's Day), *April 15 est. (El Mouled), May 1 (Labor Day), June 1-2 (Victory Day), July 25 (Republic Day), Aug. 3 (President's Birthday), Aug. 13 (Women's Day), Oct. 15 (Evacuation of Bizerte), *Oct. 27-28 est. (Aid El Fitr).

UGANDA—Jan. 1 (New Year's), Jan. 25 (Second Republic Day), *April 20-23 (Easter), May 1 (Labor Day), Oct. 9 (Independence), sometime in Nov. (Idd El Fitr), Dec. 25 (Christmas), Dec. 26 (Boxing Day).

UPPER VOLTA—Jan. 1 (New Year's), Jan. 3 (Revolution Day), *Jan. 17 Tabaski), *April 23 (Easter Monday), *April 26 (Mouloud), May 1 (Labor Day), *May 31 (Ascension), *June 11 (Whit Monday), Aug. 15 (Assumption), Nov. 1 (All Saints), *Oct. 28 (Ramadan), Dec. 11 (National Day), Dec. 25 (Christmas).

ZAIRE—Jan. 1 (New Year's), Jan. 4 (Martyrs of Independence), May 1 (Labor Day), *May 11 (Ascension), May 20 (National Party Day), June 30 (Independence), Nov. 17 (Army Day), Nov. 24 (Anniversary of the New Regime), Dec. 25 (Christmas).

ZAMBIA—Jan. 1 (New Year's), *April 20-23 (Easter), May 1 (Labor Day), May 25 (African Freedom Day), *June 11 (Whit Monday), July 2 (Heroes Day), July 3 (Unity Day), Aug. 13 (Youth Day), Oct. 24 (Independence), Dec. 25 (Christmas), Dec. 26 (Boxing Day).

NEAR EAST-SOUTH ASIA

AFGHANISTAN — Jan. 14 (Id-e-Azha), Feb. 13 est. (Tenth of Moharram), March 21 (New Year's), April 14 est. (Milad-e-Nabi), May 27 (Independence Day), Aug. 23 (Independence Celebration), Aug. 31 (Pushtoonistan Day), Sept. 9 (National Assembly Day), Sept. 28 est. (First of Ramazon), Oct. 15 (Deliverance Day), Oct. 28 est. (Id-e-Fitr), Jan. 4 est. (Id-e-Azha).

The regular weekend holiday is from Thursday noon through Friday. Saturday and Sunday are regular workdays.

BAHRAIN—*Jan. 13-15 (Eid Al-Adha), *Feb. 4 (Moslem New Year), *April 14 (Prophet's Birthday), *Aug. 25 (Ascension of Prophet), *Oct. 27-28 (Eid Al-Fitr), Dec. 16-17 (National Day).

All holidays except National Day are based on the lunar year and dates may vary slightly.

BANGLADESH—Jan. 14-15 est. (Eid-ul-Azha), Feb. 21 (Martyrs Day), March 17 (Birthday of Father of Nation), March 26 (Independence), April 14 (New Year's), April 15 est. (Eid-P-Miladun Nabi), May 1 (May Day), July 1 (Bank Holiday), Oct. 27-28 est. (Eid-Ul-Fitr), Dec. 16 (Victory), Dec. 25 (Christmas).

In addition, there will be a number of optional holidays, mostly for religious occasions. Optional holidays, the dates of which are not yet known, may or may not be observed by commercial firms.

In most cities, Saturdays are half-days and Sundays are fully closed days.

BURMA—Jan. 4 (Independence), Feb. 12 (Union Day), March 2 (Peasants' Day), *March 18 (Full Moon of Tabaung), March 27 (Resistance Day), *April 13-15 (Water Festival), *April 16 (New Year's), May 1 (Workers' Day), *May 15 (Full Moon of Kason), *July 14 (Full Moon of Waso), July 19 (Martyrs' Day), *Oct. 11 (Full Moon of Thadingyut), *Nov. 9 (Full Moon of Tazaungmon), *Nov. 19 (National Day), Dec. 25 (Christmas).

CYPRUS—Jan. 1 (New Year's), Jan. 6 (Epiphany), Jan. 15 (Kurban Bayram), Jan. 19 (Arch. Makarios Name Day), *March 12 (Green Monday), March 25 (Greek Independence Day), April 1 (EOKA Day), *April 16 (Birthday of the Prophet), April 23 (Opening of the Turkish Grand National Assembly), *April 27-30 (Easter), May 19 (Turkish Youth Day), Aug. 30 (Turkish Victory Day), Oct. 28 (OHI Day), *Oct. 28 (Ramazan Bairam), Oct. 29 (Turkish Republic Day), Dec. 24-25 (Christmas), Dec. 26 (Boxing Day).

EGYPT—*Jan. 15-18 est. (Kurban Bairam), *Feb. 4 est. (Islamic New Year's), *April 15 est. (Prophet's Birthday), April 30 (Sham el Nassim), June 18 (Evacuation Day), July 23 (Revolution Day), *Oct. 28-30 est. (Ramadan Bairam).

INDIA—Jan. 1 (New Year's), *Jan. 16 (Id-ul-Zuha), Jan. 26 (Republic Day), *Feb. 14 (Muharram), *March 3 (Mahashivratri), *March 19 (Holi), *April 11 (Ram Naumi), April 13 (Vaisakhi), *April 20 (Good Friday), *Aug. 14 (Raksha Bandhan), Aug. 15 (Independence), *Aug. 21 (Janamashtmi), *Aug. 31 (Vinayaka Chaturthi), Oct. 2 (Mahatma Gandhi's Birthday), *Oct. 5-6 (Dussehra), *Oct. 25 (Diwali), *Oct. 26 (Govardhan Puja), *Nov. 10 (Guru Nanak's Birthday), Dec. 25 (Christmas).

IRAN—*Jan. 15 (Id-E-Ghorban), *Jan. 23 (Id-E-Ghadir), *Feb. 14 (Ashura), March 21-22 (No-Ruz—Iranian New Year), April 2 (Sizdah), *April 3 (Death of the Prophet and Death of Imam Hassan), *April 21 (Birthday of the Prophet and Birthday of Imam Jaefar Sadegh), Aug. 5 (Constitution Day), *Aug. 26 (Mabas), *Sept. 13 (Birthday of the 12th Imam), *Oct. 19 (Death of Imam Ali), Oct. 26 (Birthday of the Shah), *Oct. 28 (Id-E-Fetr), *Nov. 21 (Death of Imam Jaefar Sadegh), Dec. 7 (Birthday of Imam Reza).

The weekend is from Thursday noon through Friday.

Many people go on holiday over No-Ruz from March 21-April 2.

ISRAEL—*March 18 (Purim), *April 17 (Passover, first day), *April 23 (Passover, last day), *May 7 (Independence), *June 6 (Pentecost), *Aug. 7 (Commemoration of the Destruction of the Temple), *Sept. 27 (Rosh Hashana, first day), *Sept. 28 (Rosh Hashana, second day), *Oct. 6 (Yom Kippur).

On Fridays, and days preceding holidays, businesses close at 1 p.m. Sundays are working days in Israel and on Saturdays all businesses are closed.

Banks are closed March 18 (Purim) and Aug. 7 (Commemoration of the Destruction of the Temple).

Between the first and last day of Passover, some businesses and institutions close half days. A few factories take annual leave; others remain open.

JORDAN—*Jan. 12 (Id al-Adha), *Feb. 2 (Islamic New Year), *April 10 (Prophet's Birthday), May 25 (Independence), Aug. 11 (King Hussein's Accession to Throne), *Oct. 23 (Id al-Fitr), Nov. 14 (King Hussein's Birthday).

In addition, government institutions and some commercial and financial establishments close on the following days: Jan. 15 (Arbor Day), March 8 (Coronation of King Faisal), March 22 (Arab League Day), May 1 (Labor Day).

Many Moslem and Christian establishments close on Fridays, Christian businesses on Sundays.

KUWAIT—Jan. 1 (New Year's), *Jan. 13 est. (Waqfa), *Jan. 14-16 est. (Eid al-Adha), *Feb. 4 est. (Islamic New Year), Feb. 25 (National Day), *April 14 est. (Birth of the Prophet), *Aug. 25 est. (Ascension), *Oct. 27-29 est. (Eid al-Fitr).

LEBANON—Jan. 1 (New Year's), *Jan. 14 (Id al Adha), *Feb. 3 (Moslem New Year), March 22 (Arab League Day), *April 14 (Prophet's Birthday), *April 20-23 and 27-30 (Easter), May 1 (Labor Day), May 6 (Martyr's Day), *May 31 (Ascension), Aug. 15 (Assumption), *Oct. 27 (Id al Fitr), Nov. 1 (All Saints), Nov. 22 (Independence), Dec. 25 (Christmas).

Moslem holidays are based on the lunar year and dates may vary slightly.

NEPAL — *Jan. 10 (Prithvi Jayanti), *Jan. 29 half day (Martyrs' Day), *Feb. 8 (Basant Panchami), *Feb. 18 (Tribhuvan Jayanti and Democracy Day), *March 3 (Shivaratri), *March 18 (Fagu), *April 10 (Chaitra Ashtami), *April 11 (Ram Nawami), *April 13 (New Year's), *May 17 (Buddha Jayanti), *Aug. 14 (Janai Purnima), *Aug. 21 (Krishna Jayanti), *Sept. 27 (Ghatasthapana), Oct. 3-12 (Dashain), Oct. 24 half-day (United Nations Day), *Oct. 26-28 (Tihar), *Dec. 16 (Mahendra Jayanti and Constitution Day).

*March 8 (Women's Day), *Aug. 30 (Tij), and *Nov. 7 (Queen Aishwarya's Birthday) are holidays for women only. *April 3 (Ghode Jatra), *Aug. 15 (Gai Jatra), and *Sept. 11 (Indra Jatra) are half-holidays in Kathmandu only.*

PAKISTAN—*Jan. 15-16 (Eid-ul-Azha), *Feb. 14 (Muharram), March 23 (Pakistan Day), *April 16 (Eid-i-Milad-un-Nabi), May 1 (May Day), Aug. 14 (Independence), Sept. 6 (Defence of Pakistan Day), Sept. 11 (Death Anniversary of Quaid-i-Azam), Oct. 26 (Jumatul Wida), *Oct. 28-29 (Eid-ul-Fitr), Dec. 25 (First of Quaid-i-Azam and Christmas).

Jan. 1, July 2 and Dec. 31 are holidays for banks only.

SAUDI ARABIA — *Jan. 14-19 (Id-al-Adha), Sept. 23 (National Day), *Oct. 27-Nov. 2 (Id-al-Fitr).

All holidays except National Day are based on the lunar year and dates may vary slightly. Although the month of Ramadan (Oct.-Nov.) is not a holiday, business may be interrupted.

SRI LANKA—Jan. 14 (Thai Pongol), *Jan. 16 (Haj Festival), *Jan. 18 (Poya), *Feb. 16 (Poya), *March 3 (Maha Sivarathri), *March 18 (Poya), *April 12-13 (Sinhala and Tamil New Year), *April 16 (Prophet's Birthday), *April 17 (Poya), *April 20 (Good Friday), May 1 (May Day), *May 16-17 (Vesak Poya), May 22 (Republic Day), *June 15 (Poya), *July 14 (Poya), *Aug. 13 (Poya), *Sept. 12 (Poya), Sept. 26 (Bandaranaike Day), *Oct. 11 (Poya), *Oct. 25 (Deepavali), *Oct. 28 (Ramazan), *Nov. 10 (Poya), *Dec. 9 (Poya), Dec. 25 (Christmas).

June 30 and Dec. 31 are bank holidays.

TURKEY—Jan. 1 (New Year's), *Jan. 15-18 (Feast of Sacrifice), April 23 (National Sovereignty and Children's Day), May 1 (Spring Day), May 19 (Youth and Sports Day), Aug. 30 (Victory Day), *Oct. 28-30 (Feast of Sugar).

UNITED ARAB EMIRATES — Jan. 1 (New Year's), *Jan. 25-28 (Eid Al Adha), *Feb. (Hijra New Year's), *April (Prophet's Birthday), *Aug.-Sept. (Ascension of the Prophet), *Oct.-Nov. (Eid Al Fitr), Dec. 2 (National Day).

The exact dates of the moveable holidays will be determined later.

Christmas is not an official holiday but may be observed by part of the business community.

YEMEN—*Jan. 13-16 est. (Eid Al Adha), *Feb. 4 est. (New Year's), *April 24 est. (Prophet's Birthday), Sept. 26-30 (Founding of the Republic), *Oct. 24-26 (Eid Al Fitr), Nov. 5 (National Day).

FAR EAST

AUSTRALIA — Jan. 3 (New Year's), *Jan. 29 (Australia Day), April 20-23 (Easter), April 25 (ANZAC Day), Dec. 25 (Christmas), Dec. 26 (Boxing Day).

*Regional Holidays: *March 5 (Eight-Hour Day), Tasmania, (Labor Day), Western Australia; *March 12 (Labor Day), Victoria; *April 24 (Easter Tuesday), Victoria; *May 7 (Labor Day), Queensland; *May 14 (Adelaide Cup Day), South Australia; *June 4 (Foundation Day), Western Australia; *June 4 (Queen's Birthday), all states except Western Australia; *Aug. 6 (Bank Holiday), Australian Capital Territory and New South Wales; *Aug. 15 (Exhibition Day), Queensland; *Sept. 26 (Show Day), Western Australia; *Sept. 27 (Melbourne Show Day), Melbourne; *Oct. 1 (Labor Day), Australian Capital Territory and New South Wales; *Oct. 8 (Labor Day), South Australia, (Queen's Birthday), Western Australia; *Oct. 11 (Launceston Show), Northern Tasmania; *Oct. 25 (Hobart Show), Hobart; *Nov. 5 (Bank Holiday), Northern Tasmania; *Nov. 6 (Melbourne Cup Day), Melbourne.*

CAMBODIA—*Feb. 17 (Meak Bauja), March 18 (18 March), April 13-15 (Khmer New Year), *May 16 (Visak Bauja), *Sept. 26-28 (Pchum Ben—Festival of Ancestors), Oct. 9 (Proclamation Day), Oct. 24 (UN Day), Dec. 10 (Human Rights).

FIJI—Jan. 1 (New Year's), *April 20-23 (Easter), *June 4 est. (Queen's Birthday), Aug. 6 (Bank Holiday), *Oct. 8 est. (Dominion Day), *Nov. 12 est. (Prince Charles' Birthday), Dec. 25 (Christmas), Dec. 26 (Boxing Day).

HONG KONG—Jan. 1 (first weekday in Jan.), *Feb. 3-6 (Chinese New Year), *April 5 (Ching Ming Festival), April 20-23 (Easter), *June 5 (Tuen Ng Festival), *July 2 (first weekday in July), *Aug. 6 (first Monday in August), *Aug. 27 (Liberation Day), *Sept. 12 (day following Chinese Mid-Autumn Festival), *Oct. 4 (Chung Yeung Festival), Dec. 25-26 (Christmas).

INDONESIA — Jan. 1 (New Year's), *Jan. 15 (Idul Adha), *Feb. 5 (1 Muharam 1391 H.), *April 16 (Prophet's Birthday), *April 20 (Good Friday), *May 31 (Ascension of Christ), Aug. 17 (Independence), *Aug. 26 (Ascension of Mohamed), *Oct. 27-28 (Idul Fitri), Dec. 25 (Christmas).

The Islamic month of fasting, Ramadhan, begins Oct. 1. During the following lunar month (28 days), government offices and many businesses work a shorter business day, generally 8 a.m.-12 noon.

JAPAN—Jan. 1 (New Year's), Jan. 15 (Adult's Day), Feb. 11 (Nat'l Founda-

tion Day), *March 21 (Vernal Equinox Day), April 29 (Emperor's Birthday), May 3 (Constitution Day), May 5 (Children's Day), Sept. 15 (Respect for the Aged Day), *Sept. 23 (Autumnal Equinox Day), Oct. 10 (Sports Day), Nov. 3 (Culture Day), Nov. 23 (Labor Thanksgiving Day).

KOREA—Jan. 1-3 (New Year's), March 1 (Independence Movement Day), April 5 (Arbor Day), June 6 (Memorial Day), July 17 (Constitution Day), Aug. 15 (Independence), *Sept. 11 (Thanksgiving), Oct. 3 (National Foundation Day), Oct. 9 (Alphabet Day), Oct. 24 (UN Day), Dec. 25 (Christmas).

LAOS—Jan. 1 (New Year's), *Jan. 30 (Buddhist All Saints), March 1 (War Victims Day), March 23 (Army Day), *April 13-15 (Lao New Year), *April 27 (Makha Bouxa), *April 28 (Rocket Festival), May 1 (Labor Day), May 11 (Constitution Day), July 19 (Independence), *July 25 (Beginning of Buddhist Lent), *Sept. 7 (Rice Growing Day), *Sept. 22 (Rice Donation Day), *Oct. 22 (End of Buddhist Lent), *Oct. 23 (Boat Racing Day), Oct. 24 (UN Day), *Nov. 18-21 (That Luang Festival).

MALAYSIA — Jan. 1 (New Year's), *Jan. 15 (Hari Raya Haji), Feb. 3-4 (Chinese New Year), Feb. 5 (First Day of Muharram), *April 16 (Birthday of Prophet), May 1 (Labor Day), May 17 (Wesak Day), June 6 (Birthday of H.M. Yang di-Pertuan Agong), Aug. 31 (Malaysia Day), *Oct. 27-28 (Hari Raya Puasa), Dec. 25 (Christmas).

*Regional holidays: Jan. 19 (Thaipusam), Penang; March 8 (Birthday of H.R.H. Sultan of Selangor), Selangor; *April 20-23 (Easter), Sabah, Sarawak; June 1-2 (Dayak Festival), Sarawak; July 2 (Birthday of H.E. Governor of Sarawak), Sarawak; *Oct. 25 (Deepavali), West Malaysia; Dec. 26 (Boxing Day), Sabah, Sarawak.*

NEW ZEALAND—Jan. 1 (New Year's), April 20-23 (Easter), April 25 (ANZAC Day), June 5 (Queen's Birthday), *Oct. 23 (Labor Day), Dec. 25 (Christmas), Dec. 26 (Boxing Day).

*Regional holidays: *Jan. 22 (Wellington Day), *Jan. 29 (Auckland Day), Jan. 31 (Nelson Day), (March 23 (Christchurch Day), Dec. 15-Jan. 17, business operated with a minimal staff.*

PHILIPPINES—Jan. 1 (New Year's), April 9 (Bataan Day), *April 19-20 (Easter), May 1 (Labor Day), June 12 (Independence), July 4 (Philippine-American Friendship Day), Nov. 12 (Election Day), Nov. 30 (Bonifacio Day), Dec. 25 (Christmas), Dec. 31 (Rizal Day).

June 24 (Manila Day), is observed in Manila only.

SINGAPORE — Jan. 1 (New Year's), *Jan. 15 (Hari Raya Haji), *Feb. 3-5 (Chinese New Year), *April 20 (Good Friday), May 1 (Labor Day), May 17 (Buddha's Birthday), Aug. 9 (National Day), *Oct. 25 (Deepavali), *Oct. 29 (Hari Raya Puasa), Dec. 25 (Christmas).

SOUTH VIET-NAM — Jan. 1 (New Year's), Jan. 11 (Buddha's Illumination), *Feb. 3-5 (Lunar New Year—Tet), *April 4 (Hung Vuong Anniversary), May 1 (Labor Day), May 17 (Buddha's Birthday), Nov. 1 (Anniversary of the Revolution), Dec. 25 (Christmas).

TAIWAN—Jan. 1-2 (New Year's), *Feb. 2 (Chinese New Year's Eve, half day), Feb. 3-4 (Chinese New Year—Spring Festival), March 29 (Youth Day), April 5 (Festival of the Sweeping Tombs), *June 5 (afternoon only, Dragon Boat Festival), *Sept. 11 (afternoon only, Moon Festival), Sept. 28 (Confucius' Birthday—Teachers' Day), Oct. 10 (National Day), Oct. 25 (Taiwan Restoration Day), Nov. 12 (Dr. Sun Yat-sen's Birthday), Dec. 25 (Constitution Day).

Oct. 31 (Pres. Chiang Kai-shek's Birthday) is not an official holiday, but widely observed. In addition, many non-official and religious holidays are celebrated by various segments of the population. While businesses are not closed, businessmen may not be available.

THAILAND — Jan. 1 (New Year's), *Feb. 3 (Chinese New Year—No Government Holiday), *Feb. 19 (Makha Bucha), April 6 (Chakri), April 13 (Songkran), May 1 (Labor Day), May 7 (Coronation Day), *May 16 (Wisakha Bucha), July 1 (Midyear Holiday—commercial banks only), *July 15-16 (Asaraha Bucha — Buddhist Lent), Aug. 13 (Queen's Birthday), Oct. 23 (Chulalongkorn Day), Dec. 5 (King's Birthday), Dec. 10 (Constitution), Dec. 25 (Christmas—No bank holiday), Dec. 31 (New Year's Eve).

Licensing, Investment Abroad

Licensing and investment proposals from foreign firms are listed in these columns. Specific product interests in each proposal are highlighted in bold type to facilitate identification and each proposal is preceded by the appropriate four-digit product number taken from the Standard Industrial Classification (SIC) Manual.

Background information on opportunities abroad and assistance on overseas investments are available from the Office of International Investment, BIC-286-F, U.S. Department of Commerce, Washington, D.C. 20230. "P" numbers should be used when responding to specific proposals.

WTD indicates that a World Trade Directory Report containing financial and background information on the foreign firm is available for $5 from the Department of Commerce, BIC-266, Washington, D.C. 20230, or from any Commerce Field Office.

VIETNAM — The Board of Investment (BOI) recently specified **criteria which projects must satisfy to qualify for investment privileges.** Investments that are export-oriented, generate foreign exchange, and/or employ significant manpower could qualify as priority projects. BOI has also announced a list of priority projects eligible for investment incentives. For further information write: Nguyen Dang Khoi, Investment Service Center, 100 Tu Do St., Saigon, South Vietnam. P-72755.

1771, 1799—UNITED KINGDOM—Large engineering group ranking in the top twenty U.K. firms is seeking licenses and distribution rights for **new processes or advanced products for the building industry.** Items of potential interest include access scaffolding systems, shoring and construction support systems, concrete formwork, foundation and piling systems, soil testing, concrete reinforcing material and methods of bending and cutting reinforcing bars. Ronald H. Adair, International Development Manager, Guest Keen & Nettlefold Ltd., St. Ives House, St. Ives Rd., Maidenhead, Berks SL6-1QZ, England. WTD. P-72757.

2384—JAPAN—Company seeks exclusive license to manufacture **high-quality ladies terrycloth robes.** Has licensing and agency arrangements with other U.S. manufacturers. Annual sales for year ending June 1972 totaled $237 million. Masahiko Abe, Manager, Sankyo Seiko Co., Ltd., 5 Tomizawa-cho, Nihonbashi, Chuo-ku, Tokyo. WTD. P-72742.

3272, 3448 — NETHERLANDS — Large building materials group seeks **joint venture for prefabricated houses.** Also desires know-how and financial collaboration in expanding **production of diversified types of building materials.** Office of International Finance and Investment, BIC-286F, U.S. Department of Commerce, Washington, D.C. 20230. P-72758.

3315, 3351, 3357 — AUSTRALIA — Joint venture or licensing arrangement with American companies sought by established firm with facilities for the **fine drawing, rolling and forming of nonferrous and steel wires.** Production manager plans to visit U.S. in February and March. G. Griffiths, Marval Industries Pty. Ltd., Box 106, Post Office, Cardiff, New South Wales 2285. P-72744.

3357 — SWITZERLAND — Large rubber processor and cable firm with modern cable manufacturing facilities in Altdorf desires licenses for the **production of six types of cable:** elevator cables, small coaxial cables, honeycomb weave, fibre optics cable, television cable and waterproof telephone cables. Company employs 4,500 and 1971 sales were about $90 million. Dr. J. Feitknecht, R&D Manager, Cable Division, Daetwyler AG, 6460 Altdorf, Switzerland. WTD. P-72756.

3432, 3433 — SWITZERLAND — Small trading company specializing in the export of plumbing and heating equipment

to Eastern Europe desires licenses for the production of **heating valves, fittings, pipe suspension systems, heating radiators and other items** for domestic water supply systems and plumbing installations. Manufacturing facilities maintained in Austria; 1971 sales were about $800,000. IMT INTERMES AG, Hauptstr. 338, 9434 Au, Switzerland. P-72759.

3519—NETHERLANDS—Company seeks manufacturing rights for high grade production compatible with its line of **50 cc., two-stroke internal combustion engines.** Established in 1967, the plant is modern, has capacity for annual output of 120,000 engines, and employs 170. Additional information available from Office of International Finance and Investment, BIC-286F, U.S. Department of Commerce, Washington, D.C. 20230. F. A. Schyns, Director, N. V. Laura Motoren, Eygelshoven. WTD. P-72752.

3551—INDIA—Seeks technical assistance to manufacture **dairy machinery.** Envisages the manufacture of stainless steel high capacity milk pumps, flow meters, clarifiers, butter churns, plate tube evaporators, spray drying units and stainless steel pipes and tubings. V. S. Patel, General Manager, New Field Engineering Co. (NFE), 702 Yashkamal, Sayaji Gunj, Baroda 5, India. WTD. P-72743.

3551 — SWITZERLAND — Manufacturing rights for the **cardboard packaging of food products. Also licenses to make related equipment for the sealing and opening of boxes, automatic application of labels.** Interested in advanced packaging machinery. Presently produces specialized food packaging equipment; operates well-equipped facilities. Markets worldwide. Bernard Ischy, Director General, SAPAL S.A., Avenue du Tir Federal 44, 1024 Ecublens, Switzerland. WTD. P-72741.

3554—GERMANY—Licenses to manufacture **machinery for the paper industry.** Presently produces special paper and board equipment. Includes rewind and moisturing machines, brush roll dampers and ream wrapping equipment. Exports to numerous countries; good reputation. Dox, W. Dossmann, 6079 Sprendlingen, Benzstrasse 47-49, Postfach 131, Germany. WTD. P-72739.

3569—FRANCE — Manufacturing rights for **sprinkler systems and other fire prevention or extinguishing equipment.** Firm presently specializes in the sale and maintenance of refrigeration and heating equipment. Wants to diversify. Employs 45, has good reputation. Jacques Coutan, President, SERIFI, S.A. (Societe d'Etudes et de Realisations d'Installations Frigorifiques Industrielles), 90 rue des Hauts-Paves, 44000 Nantes. P-72753.

3573, 3674, 3825—JAPAN—Seeks technical assistance in the following product areas: **computer terminals, electronic measuring equipment such as pattern knowledgement devices and electronic photo optical equipment.** Susumu Azuma, Chief, Business Dept., Nippon Electronic Measurement Industry Co., Todokoro Bldg., 5-2 Nishi Kanda 2-chome, Chiyodaku, Tokyo, Japan. WTD. P-72750.

3660 — CANADA — Subsidiary of U.S. company offers its marketing services and/or production facilities to companies new to exporting or licensing. **Products addressed to government markets and industrial users,** such as telephone companies, railroads, public utilities, pipelines and all phases of marine electronics, of interest. Company presently engaged in telecommunications and electronic fields, with emphasis on tactical and maritime communications, microwave, and sophisticated thin film microcircuits; does not deal in consumer products. Has extensive marketing experience in Europe, the Far East and Latin America. R. D. Hanson, President, Collins Radio Co. of Canada Ltd., 150 Bartley Dr., Toronto 16, Ontario. P-72749.

3674, 3675—INDIA—Technical know-how sought to manufacture **ceramic and electrolytic capacitors and carbon metal film and composition resistors.** Annual production of 20 million units each planned. Plant to be located in Nasik, 120 miles from Bombay. Bulk of raw materials available locally. Firm is distributor of fabrics. P. C. Jain, Proprietor, A. Kay Brothers, 121 Vithalwadi, Kalbadevi Rd., Bombay 400 002, India. WTD. P-72748.

3842—FRANCE—Seeks licensing rights for **orthopedic and reeducational equipment, self-propelled wheelchairs.** Established 1964; employs 35; annual sales $600,000. Appareillage Medico-Chirurgical et Orthopedique Dehaussy—AMCOD, 33, rue de St. Etienne, 59000 Lille. WTD. P-72740.

5812—JAPAN—Second largest railroad and bus operator in total operation mileage seeks license or joint venture to establish a **fast-food restaurant** business. Company has more than 130 subsidiaries and affiliates, including department stores, shopping centers, supermarkets, hotels and restaurants. Capitalized at $52.5 million, has annual turnover of approximately $108.6 million. Office of International Finance and Investment, BIC-286F, U.S. Department of Commerce, Washington, D.C. 20230. WTD. P-72751.

6552—MEXICO—A major developer in the State of Sonora is planning a new city of 100,000 people in San Carlos Bay, 15 miles northwest of Guaymas. Investors are sought to develop **condominiums, apartments, restaurants, marinas, golf courses, health facilities, tennis courts and trailer parks** in conjunction with Mexican partners. Rafael T. Caballero, President, Cia. Turistica de San Carlos, S.A., Apartado Postal 97, Nogales, Sonora (or P.O. Box 26, Nogales, Ariz.). P-72746.

7011 — MEXICO — Capital and technical know-how for **tourist development** sought by a Kino Bay land developer. Company planning motels and resort hotels on 5,000 acres located about 250 miles southwest of Nogales, Ariz. on the Gulf of California. Master plan for the area includes construction of condominiums, apartments, single family homes as well as appropriate commercial and recreational facilities. Rogelio Marin, Director, Promotora 70, S.A. de C.V., Blvd. A. L. Rodriguez y Veracruz, Hermosillo, Sonora. P-72747.

7011 — TUNISIA — Established business group seeks equity or loan financing for **completion of Hotel Kebir in Bizerte** begun in 1970. Construction halted on 1,000-bed, $3 million venture because of capital shortage. Will also consider outright sale. Correspondence in French desired. Abdelkrim Jelloul Ben Houssine, Chairman, Societe de Tourism Economique de Bizerte, 12, Rue 1BN Khaldoun, Bizerte. P-72745.

7911 — ITALY — Well-regarded Italian firm established in 1938 is interested in a possible **joint venture with a U.S. firm of consulting engineers.** Company now specializes in the planning of industrial production systems including engineering and commercial problems in numerous fields such as air conditioning, anti-pollution, automatic warehousing, and computers. Dott. Ing. Aldo Viterbi, General Manager, S.P.I., Studio Progettazioni Industriali, S.A.S., Corso Vittorio Emanuele II 170, 10138 Torino. WTD. P-72754.

Licensing In U.S.

For additional information on opportunities to manufacture foreign firm's products in the U.S., write Commerce's Office of International Finance and Investment, BIC-286, U.S. Department of Commerce, Washington, D.C. 20230, (202-967-2248) referring to the appropriate file number.

FRANCE—A French company is interested in selling its patents for the manufacture of **load/lift trucks** composed of two separate bearing axle trees forming a steering train with a turning radius of 30 degrees on the right and left. The load sits between the two axles. It is claimed that 80 of the largest French concerns are customers. **File 2134-R**

FRANCE—A patent company is interested in selling its patent for a **medical appliance "armchair"** specially constructed for the re-education of cervical and dorsal lumbar segments in a functional sitting position. Chair uses a system of proportioned progressive counter resistance. **File 2198-R**

NETHERLANDS—A manufacturer of a range of rotary cutters is seeking a U.S. licensee or joint venture partner to produce its newly patented **threshing and separating mechanism for combine harvesters. File 2306**

NETHERLANDS—This company is interested in selling to a U.S. company patent rights for its new **gas infra-red pipe bending system.** Patent was applied for in the U.S. in March, 1971, and company expects it to be granted shortly. **File 2307**

NETHERLANDS—A company is offering to U.S. licensees its system for use in the gravel asphaltic, **concrete and gravel-sand asphalt industry** to determine the bitumen content of the binder and thereby have a check not only on the bitumen but also on gravel and/or sand plus filler. **File 2308**

SWITZERLAND—A large company is looking for prospective U.S. licensee to manufacture its **material handling equipment.** It is electric/hydraulic equipment used in place of industrial straddle carrier. It can be hooked to a 3- to 5-ton capacity forklift or backloader which moves it into position to straddle containers from 20 to 40 feet high, and pulls the two-wheel straddler away with its load. **File 2309**

SWITZERLAND—An inventor is seeking a U.S. licensee to produce a **bathing suit with an inflatable life-saving belt** which he has patented. **File 2310.**

SWITZERLAND—A medium size company is offering for production in the U.S. under licensing agreement its patented **electronic high performance car wheel alignment** equipment. **File 2311**

Foreign Trade Opportunities

These trade opportunities are based on reports received from the U.S. Foreign Service by the Trade Opportunities Division, BIC-267, U.S. Dpartment of Commerce, Washington, D.C. 20230. The commodities in which foreign firms have interest are indicated by the five-digit numbers and commodity classifications which are from the Standard Industrial Classification (SIC) Manual and the Numerical List of Manufactured Products, 1967 Census of Manufacturers, used extensively by Government and industry.

U. S. firms should be aware that the listing in Commerce Today *of opportunities to trade in specific commodities and technical data does not necessarily imply approval of their export by the Department of Commerce pursuant to the Export Administration Act of 1969. Applicable export licensing regulations must be followed.*

Every effort is made to include only firms or individuals with good reputations. However, the Department cannot be responsible for any trade relations.

Abbreviations used are: I (importer); D (distributor); M (manufacturer); A (agent); R (retailer). To avoid delays, requests for loan material should specify the country, commodity and foreign government agency.

WTD indicates that a World Trade Data Report containing financial and business background information on the foreign firm is available for $5 from the U.S. Department of Commerce, BIC-266, Washington, D.C. 20230.

The mark (•) indicates that this trade opportunity is a request for bids by a foreign government agency.

Direct Sales

Specific foreign firms have expressed interest in direct purchases of the products below. See also the "Agencies" listing.

Meat products

20110—JAMAICA—Cows' legs and oxtails; medically certified; legs: shanks to foot, hoof off, skin on, hairless; oxtails: hairless, skin on. Prices c.i.f. Kingston requested. Charles E. Ramson Ltd., Attn: Danny Dacosta (I, A, D), 55½ West St., Kingston. WTD in prep. Florida, Gulf or East Coast supplier preferred.

20156 — ITALY — Albumen, flake and spray (powdered). Tavi S.R.L. (I, D), Via Operai 6 Sanpierdarena 16149 Genoa. WTD in prep.

Canning, preserving foods

20331 — JAPAN — Canned foods. Tokai Umezawa Co. Ltd. (I), 34-22 Nishiki 3-Chome Naka-ku Nagoya. WTD 12/72.

20334 — ICELAND — Apple pulp in barrels. Sanitas H/F (I, D, M), V/Kollunarklettsveg, Reykjavik. WTD in prep.

20341 — ITALY — Ground nut kernels, shelled. Tavi S.R.L. (I, D), Via Operai 6 Sanpierdarena 16149 Genoa. WTD in prep.

20361 — ITALY — Institutional pack frozen pacific tuna, 200 metric tons; institutional pack frozen abalone, no definite quantity. CSI requests telex reply to 31093 gruppo Z. Commercial Services Intl. (I), via Vincenzo Monti 56, 20123 Milan.

20361 — JAPAN — Frozen round fluefin, block frozen capilion, frozen shellfish. Tokai Umezawa Co. Ltd. (I), 34-22 Nishiki 3-chome, Naka-ku Nagoya. WTD 12/72.

Grain mill products

20421—FRANCE—Raw materials, components and additives for manufacture of animal feed (including antibiotics, vitamins). Comavi S.A. (I, D, M), 5 Rue de Teheran, 75008 Paris. WTD 9/72.

20421 — FRANCE — Poultry feeds. Comavi S.A. (I, D, M), 5 Rue de Teheran, 75008 Paris. WTD 9/72.

20422 — FRANCE — Livestock feeds. Comavi S.A. (I, D, M), 5 Rue de Teheran 75008 Paris. WTD 9/72.

20432 — FRANCE — Dog and cat food. Comavi S.A. (I, D, M), 5, Rue de Teheran, 75008 Paris. WTD 9/72.

Bakery products

20522 — JAPAN — Cookies. Seiwa Trading Co., Ltd. (I), 23, 1-Chome Takabacho, Nakamura-ku Nagoya. WTD in prep.

Confectionery

20713 — JAPAN — Candy, package goods. Seiwa Trading Co., Ltd. (I), 23, 1-Chome Takaba-cho, Nakamura-ku Nagoya. WTD in prep.

Beverage industries

20850 — JAPAN — Tonic water with few percent alcohol content, bottled or canned. Hokuyo Koweki Co., Ltd., Attn: Iwamoto (I, D), Naigai Bldg., 2-2 Marunouchi 2-chome, Chiyoda-ku, Tokyo. WTD in prep.

Broad woven fabric mills, cotton

22117 — JAPAN — High quality tents for camping use. B & A Consultants Corp. (I, D), 3-12-2, Oyamadai, Setagaya-ku, Tokyo 158. Attn: Mr. B. Lynch. WTD in prep.

Broad woven fabric mills, manmade fiber, silk

22210 — GERMANY — Electrically conductive (anti-electrostatic) fleeces. Gottfried Reuter GmbH (I, D, M, research & development), 2844 Lemfoerde, P.O. Box 14. WTD in prep.

22218 — GERMANY — Synthetics and synthetic cotton mix fabrics. Ernst Better (A), 638 Bad Homburg V.D.H. Hollsteinstrasse 14. WTD 11/72.

Floor covering mills, products

22710 — GERMANY — Electrically conductive (anti-electrostatic) carpets, rugs. Gottfried Reuter GmbH (I, D, M, research & development), 2844 Lemfoerde, P.O. Box 14. WTD in prep.

Men's, youths', boys' furnishings

23282—ICELAND—Work pants; dungarees. Direct purchase or agency. Samband of Iceland, Import Dept. (A, D, R), Sambandshus/Solvholsgotu, Reykjavik. WTD 8/72.

23291 — GERMANY — Heavy outerwear suits for motorcycles. Wesda, Freizeit U. Technik Handels GmbH, contact: Herr Glasmacher (I, D), 4032 Lintorf, An Den Dieken. WTD 10/72.

23291 — ICELAND — Arctic overcoats with hood. Direct purchase or agency. Samband of Iceland, Import Dept. (A, D, R), Sambandshus/Solvholsgotu, Reykjavik. WTD 8/72.

Apparel, accessories

23850—SWITZERLAND—Plastic or rubberized bathing caps for use on sailing boats. Neuburger Sport (I, R), Werdstr. 4, Ch-8004 Zurich. WTD 12/72.

Fabricated textile products

23990 — JAPAN — High quality sleeping bags for camping use. B & A Consultants Corp. (I, D), 3-12-2 Oyamadai, Setagaya-ku, Tokyo 158. Atten: Mr. B. Lynch. WTD in prep.

Logging camps, logging contractors

24110 — JAPAN — American red cedar logs, diameter of 12" or more, with minimum knots, no cracks, no rot for use in the manufacture of folk hand carvings. Kyoto Trading Co., Ltd. Attn: Tatsumi Kimura, Pres. (I), 59 Sakauecho, Higashi-ku, Nagoya 461-91. WTD prep. Requests price quotation f.o.b. U.S. port or c.i.f. at Nagoya.

Sawmills, planing mills

24210 — GERMANY — Carolina pine. Schweitzer, Heinrich, Holzgrosshandlung, contact: Herr Heinze (I, D), 41 Duisburg, Essenberger Str. 29. WTD in prep.

Paper mills

26215—JAMAICA—Buff manila file folder stock paper. Specifications: 45 inch diameter roll with 12 inch cores; 11¾ and 14¾ inch width paper; 11 point and 14 point weights. Quantity: approximately 1 container load of 61 rolls biweekly. C.i.f. Kingston quotes requested. Acco Jamaica Ltd. (I, D, M), 55½ West St., Kingston. WTD in prep. Would prefer East or Gulf coast supplier.

Converted paper, paperboard items

26440 — AUSTRIA — Self-adhesive wall paper. Catalogs, price quotations (preferably c.i.f. European port) requested. Intrapex Handels GmbH. (I, A), Landstrasser Hauptstrasse 45, A-1030 Vienna. WTD in prep.

26451 — GERMANY — Electrostatic copypaper. D. Reineke (D, A), D-6238 Hofheim/Taunus, Teutonenstrasse 18. WTD in prep.

Paperboard containers, boxes

26543—FRANCE — Paper folding boxes (small and medium for liquids). Cartonnages Hernas (M), B. P. No. 1, 80—Feuquieres-en-Vimeu. WTD 12/71.

Industrial chemicals

28134 — INDIA — Unspecified quantity high purity argon gas filled in cylinders. Cylinders should not be filled at pressure exceeding 138.6 kgcm2 at 150 degrees C and valve conform to bss-341. Cylinders subject to hydraulic stretch test within stipulated period. Vulcan-Laval Ltd. (M), Bombay-Poona Rd., Dapodi, Poona 12 (Post Box No. 53, Poona 1), WTD in prep.

28153 — GERMANY — Toner concentrate and hectrostatic dispersant. E. Reineke (D, A), D-6238 Hofheim/Taunus, Teutonenstrasse 18. WTD in prep.

28199 — GERMANY — Circonium oxychloride ZR OC12. O H_2O. 44 percent O_2 in shipments of 1,000 kilograms. Goldschmidt AG, TH., Chemische Fabriken, contact: A. Pallmann (M, D), Box 106, 68 Mannheim 81. WTD 1/72.

Synthetic materials

28213 — THAILAND — Chemicals; i.e., polyethylene pearlized resin, etc., for making buttons. Requests c.i.f. Bangkok prices, samples, literature. Thai Button Industry Ltd., Part., Attn: Mr. Vichien Tirapongsananurak (M, D), 964 Phyathai Rd., Samyarn Market Bangkok. WTD in prep.

28219 — GERMANY — PTFE (teflon or equal). Carl Huth & Soehne, Dichtungs- und Kunststoff-Werk (M, D, exporter), 10 Etzelstrasse, D-7120 Bietigheim. WTD 12/72.

28219 — THAILAND — Polyolefin for making ribbons, bows. Requests c.i.f. Bangkok prices, samples, literature. Thai Button Industry Ltd., Part., Attn: Mr. Vichien Trirapongsananurak (M, D), 964 Phyathai Rd., Samyarn Market, Bangkok. WTD in prep.

28220 — SWITZERLAND — Neoprene sheets for manufacture of diving suits. Neuburger Sport (I, R), Werdstrasse 4, Ch-8004 Zurich. WTD 12/72.

28232—ETHIOPIA—1000 tons of rayon staple fiber (cotton type) 1.5 den. x 38/40 mm cut-length, crimped dull; to be shipped in second half of 1973. Prices should be in US cents per kg. C.i.f. Djibouti price quotation requested. Indo-Ethiopian Textiles Share Co. (M), P.O. Box 1041 (Telex 21066), Addis Ababa. WTD 5/72. Hopes to complete purchase arrangements as soon as possible.

Paints, varnishes, lacquers, enamels

28511 — JAMAICA — Automobile paint for body shop, fast drying, suitable for high humidity conditions. Brochures, quotations requested. Sinclair's Garage Ltd., Attn: J. Crawford (I, R, automobile dealer), P.O. Box 400, Kingston. WTD 12/72.

Tires, tubes

●30100 — INDIA — Rubber tires, pneumatic, size 37.5 x 33—42 ply rating, heavy duty wide base tubeless, suitable for B-70 Euclid Bottom-Dumpers Earth Movers — quantity required 60. Bids should be submitted to Chief Purchase Officer, Beas Purchase Organization, Talware Township District, Hoshiarpur, Punjab, India. Tender No. 1336/15921/R-718. Bid deadline 2 p.m., Feb. 2. Tender documents and specifications available for review at Materials Division, Room 2124, U.S. Department of Commerce, Washington, D.C., 20230, ★(202-967-5287).

Fabricated rubber products

30692 — GERMANY — Rubber hoses, all purposes. Offers with price quotation c.i.f. or f.o.b. Chr. Berghoefer & Co., Contact Christian Berghoefer (M, I, D), 199 Frankfurter Str., 3500 Kassel-Niederzwehren. WTD 12/72.

Plastic products

30794 — FRANCE — Collapsible plastic containers (all sizes). Cartonnages Hernas (M), B. P. No. 1, 80—Feuquieres-en-Vimeu. WTD 12/71.

30794—SPAIN—Packaging and shipping containers, plastic. Nuevos Desarrollos, SA. (NUDESA) (I, D, M), Gerona 210, P.O. Box 386, Sabadell (Barcelona). WTD 11/72.

30795 — GERMANY — Plastic hoses, all purposes. Offers with price quotation c.i.f. or f.o.b. Chr. Berghoefer & Co., contact: Christian Berghoefer (I, D), 199 Frankfurter Str. 3500 Kassel-Niederzwehren. WTD 12/72.

30795—SPAIN—Industrial plastic products. Nuevos Desarrollos, SA. (NUDESA) (I, D, M), Gerona 210, P.O. Box 386, Sabadell (Barcelona). WTD 11/72.

30796 — SPAIN — Construction plastic products. Nuevos Desarrollos SA, (NUDESA) (I, D, M), Gerona 210, P.O. Box 386 Sabadell (Barcelona). WTD 11/72.

30797 — SPAIN — Plastic dinnerware, tableware and kitchenware. Nuevos Desarrollos, SA. (NUDESA) (I, D, M), Gerona 210, P.O. Box 386, Sabadell (Barcelona). WTD 11/72.

30798 — GERMANY — Disposable laboratory articles made of plastic, C. A. Greiner & Soehne (M), 9 Galgenbergstrasse, D-7440 Nuertingen. WTD 12/72.

30798—SPAIN—Consumer and commercial plastic products. Nuevos Desarrollos, SA. (NUDESA) (I, D, M), Gerona 210, P.O. Box 386, Sabadell (Barcelona). WTD 11/72.

Leather tanning, finishing

31111—GERMANY—Shoe upper leather (chrome). Mercedes Schuhfabriken G.m.b.H. 145-147 Waiblinger Strasse, Stuttgart 50. WTD 12/72.

31111 — JAMAICA — Best quality finished cattle hide in various colors: finished splits, including shoulder splits, deep buffs, buffing, and fleshers. Quantity: 20,000 sq. ft. Request samples, quotation c.i.f. Kingston. Things Jamaican Ltd., contact: Alan Oak (I, M), P.O. Box 60, Kingston 14. WTD 12/72.

Footwear, except rubber

31412 — USSR — Industrial footwear resistant to high temperature, organic solvents, petroleum products. Direct purchase & purchase of licenses for manufacture. Foreign Relations Dept., USSR Ministry of Light Industry, Prospekt Kalinina 29, Moscow G-19 (M), Foreign Relations Dept., USSR Ministry of Health, Rakhmanovskiy Pereulok 3, Moscow K-51; V/O Raznoexport, Verkhne-Krasnoselskaya Ulitsa 15, Moscow B-140 (I).

Glass, glassware

32291 — AUSTRALIA — Table, kitchen, art and novelty glassware. Boans Ltd. (I, R), Mr. E. Banducci, buyer of china and glass, Boans Dept. Store, GPO Box C-105, Perth. WTD 5/72. Requests catalogs, price lists.

Structural clay products

32550 — ITALY — Fire clay refractory bricks for ladles (steel mill). Ferraris Mario - Agenzie (I, A, D), Via Cesarea 2/42-A, 16121 Genoa. WTD in prep. Ferraris is in urgent need of firm offer.

Pottery, related products

32620 — AUSTRALIA — Tableware and kitchen articles made of vitreous china and procelain. Boans Ltd. (I, R), Attn: Mr. E. Banducci, buyer of china and glass, Boans Dept. Store, GPO Box C-105, Perth. WTD 5/72. Requests catalogs, price list from American producers.

32630 — AUSTRALIA — Fine earthenware table & kitchen articles. Boans Ltd. (I, R), Mr. E. Banducci, buyer of china and glass, Boans Dept. Store, GPO Box C-105, Perth. WTD 5/72. Requests catalogs and price lists from American producers.

Abrasive, asbestos, nonmetalic mineral products

32970 — ITALY — Dolomite refractory bricks, tarred, stabilized for LD convertors (steel mill). Ferraris Mario - Agenzie (I, A, D), Via Cesarea 2/42-A, 16121 Genoa. WTD in prep. Ferraris is in urgent need of firm offer.

Steel mill products

33123 — GERMANY — Hot rolled sheet steel. Stinnes Stahlhandel GmbH (I, D, A), D-6230 Frankfurt/Main-Hochst, Silostrasse 59-63. WTD in prep.

33125 — INDIA — 6,400 kgs. 14 guage steel wire conforming to SS 316 ASTM A-478. Turner Hoare & Co. Ltd. (M), Post Box No. 7802, Signal Hill Ave., Tank Rd., Bombay 33. Attn: Mr. J. Dunstan Lobo. WTD in prep.

33126—TAIWAN—Steel pipes (360 mm, ½" thick, and 710 mm, ½" thick). Requests replies to bid on government tender. Dragon Gate Trading Co., Ltd. (I, A), 294 Fo Ho Rd., Yung Ho, Taipei Hsien (234). WTD in prep.

33127—NEW ZEALAND—Stainless steel sheet. Direct purchase & agency. Metal Import Co. Ltd. (I, D), P.O. Box 9240, Wellington. WTD in prep.

33128—NEW ZEALAND—Stainless steel rods, bars. Direct purchase & agency. Metal Import Co., Ltd. (I, D), P.O. Box 9240, Wellington. WTD in prep.

33167 — GERMANY — Cold rolled thin sheet steel. Stinnes Stahlhandel GmbH (I, D, A), D-6230 Frankfurt/Main-Hochst, Silostrasse 59-63. WTD in prep.

Rolling, drawing, extruding of nonferrous metals

33510 — PHILIPPINES — Brass wires used in manufacture of semi-tubular brass rivets. California Manufacturing Corp. (M), 910 Manhattan Bldg., Nueva St., Manila, WTD in prep.

33512—SPAIN—Copper leaf for decorating furniture. Smobile (M), Plaza de Los Porticos S/N Barcelona. WTD 11/72.

33523—SPAIN—Aluminum leaf for decorations, furniture. Smobile, Attn: Mr. Juan Bobe (M), Plaza de Los Porticos S/N, Barcelona. WTD 11/72.

33560—AUSTRIA—Rods of german silver (Neusilber NS-6218) in structural shapes for production of hinges for eyeglass frames, free of lead and containing lead. Offers with specifications, price quotations requested. Groth & Guenzel O.H.G. (I, M), A-9181 Feistritz. WTD in prep.

Nonferrous foundries

33610 — MALAYSIA — Field cooking equipment. Mode: M59 (F9W 9360-082-2153); M2 (F5W 7310-842-9247); (F5W 7360-082-8592). Estimated requirements 50,000 units, c.i.f. Port Klang. Literature requested. Ministry of Defense, Jalan Padang Tembak, Kuala Lumpur. Attn: Major Abbas Bin Ibrahim, Signal Branch.

Cutlery, hand tools, general hardware

34211 — GERMANY — New to market products in field of pedicure and manicure instruments, multiple purpose folding knives, special household knives and shears, barber shears. Fritz Bracht Stahlwarenfabrik, Attn: Mr. C. A. Nueckel (M, I), 565 Solingen-Wald, Postfach 190146, Boecklinstr. 10. WTD 12/71.

34231 — JAPAN — Hand service pipe rotators to connect threaded steel pipes or gas pipes (id-4 inches and above) with pre-fabricated adaptors as conventional pipe wrenches, chain wrenches or strap wrenches for smaller pipes would not function satisfactorily due to thread frictions and heavy weight of rotating pipes. The Bunka Boeki Co., Ltd. (I, D), 6-2 Marunouchi 2-Chome, Chiyoda-ku, Tokyo. WTD 12/71.

34291 — GERMANY — Automobile hardware. Theo Decker, contact: Herr Decker (M, I, D), 43 Essen-Borbeck, Bocholder Str. 185. WTD in prep.

34291—SWITZERLAND—Marine hardware, accessories, novelties, for lake, river pleasure boats. Neubuger Sport (I, R), Werdstr. 4, Ch-8004 Zurich. WTD 12/72.

Fabricated structural metal products

34410 — GERMANY — Structural and sectional steel. Stinnes Stahlhandel GmbH (I, D, A), D-6230 Frankfurt/-Main-Hochst, Silostrasse 59-63. WTD in prep.

34411—ISRAEL—Sheet metal, working standards, for air conditioning and ventilation ducts. Ministry of Defense, P.O. Box 7057, Tel Aviv; Attn: Mr. Sinai Kalderon.

34433—ETHIOPIA—Electric boiler to run in parallel with existing boilers which work on fuel oil with following specifications: type of steam to be generated: saturated; working pressure: 12.5 kg/cm2 (178 p.s.i.); steam rating: 6300 kg/hour (13890 lbs/hour); saturated steam temperature: 194 degrees C (381 degrees F); feed water temperature: 50 degrees C (122 degrees F); preferable working voltage: 380 V, 3 phase, 50 cycles—to be supplied from 15 V/380 volt transformer; automatic devices provided in boiler design should be clearly detailed. Additional information requested: total power required by boiler for steam generation of 6300 kg/h; working voltage of boiler (recommended); size of transformer required; complete detailed specifications and description with drawings and instructions including floor space required by boiler; if boiler is of electrode heating type, what will rate of consumption for electrodes be. Separate quotation for spare electrodes and insulator should be sent with boiler quotation; references where electrical boilers have been supplied. Quotations should be c.i.f. Djibouti and should state best terms of price, delivery and terms of payment. Envelopes should be sealed and marked "electric boilers." Requests replies as soon as possible. Indo-Ethiopian Textiles Share Co. (M), P.O. Box 1041, (Telex 21066), Addis Ababa. WTD 5/72.

Fabricated wire products

34819—INDIA—6000 kgs of 14 gauge wire mesh with 10 mm square opening, having approximately width 610 mm, conforming to specifications SS 310 ASTM-A-478. Turner Hoare & Co. Ltd. (M), Post Box No. 7802, Signal Hill Ave., Tank Rd., Bombay 33. Attn: Mr. J. Dunstan Lobo. WTD in prep.

Fabricated metal products

34943—SWITZERLAND—Plumbing and heating valves, fittings and similar items. Direct purchase & agency. IMT Intermes AG (I, A, D), Hauptstr. 338 9434 Au. WTD in prep.

34970 — SWITZERLAND — Vacuum coated foil for use in manufacture of insulated alpinists' clothing. Neuburger Sport (I, R), Werdstr. 4, Ch-8004 Zurich. WTD in prep.

Construction, mining, materials handling machinery, equipment

35310 — TAIWAN — Pile extractors (strike energy 0-500 mkg). Requests replies as soon as possible to bid on government tender. Dragon Gate Trading Co., Ltd. (I, A), 294 Fo Ho Rd., Yung Ho, Taipei Hsien (234). WTD in prep.

35314—TAIWAN—Crane (200 hp, diesel engine, 3 rpm lifting 100 tons, crawler type); crane (100 hp, diesel engine, hydraulic control, lifting load 35 tons, truck type); floating cranes (non-propelling, crane shall be 360 degrees revolving type jip crane and capacity not less than 50 tons). Requests replies as soon as possible to bid on government tender. Dragon Gate Trading Co., Ltd. (I, A), 294 Fo Ho Rd., Yung Ho, Taipei Hsien (234). WTD in prep.

35316 — ECUADOR — 8 rebuilt or used 8 cu. yd. truck-mounted concrete mixers 240 h.p. (high horsepower required because of altitute over 9,000 feet), 4 wheel drive. Ecuatoriana de Hormigon Hormec S.A. (construction contractor), P.O. Box 259-A, Quito. WTD in prep. Firm expects to receive offers within one month.

35317—TAIWAN—Wheel loader (shovel)-(160 hp or up, diesel engine, capacity 2m3, tipping load 16,000 lb or more); power shovel (150 hp or up, diesel engine, crawler type, dipper capacity 1.2 m3). Requests replies as soon as possible to bid on government tender. Dragon Gate Trading Co., Ltd. (I, A), 294 Fo Ho Rd., Yung Ho, Taipei Hsien (234). WTD in prep.

35318—TAIWAN—Road rollers (10 hp, diesel engine, vibration & centrifugal force 4 tons); road rollers (60 hp, diesel engine, 3 wheel roller 10 tons); bulldozer (crawler type, hydraulic control, or same class); bulldozer (truck type, hydraulic control, or same class). Requests replies as soon as possible to bid on government tender. Dragon Gate Trading Co., Ltd. (I, A), 294 Fo Ho Rd., Yung Ho, Taipei Hsien (234). WTD in prep.

35319—TAIWAN—Concrete plant (30 m3/h with standard equipment and necessary attachments ready for operation). Requests replies as soon as possible. Dragon Gate Trading Co., Ltd. (I, A), 294 Fo Ho Rd., Yung Ho, Taipei Hsien (234). WTD in prep.

35319—TAIWAN—Harbor dredging cutters (suction-type, diesel-powered). Requests replies as soon as possible to bid on government tender. Dragon Gate Trading Co., Ltd. (I, A), 294 Fo Ho Rd., Yung Ho, Taipei Hsien (234). WTD in prep.

35321 — GREECE — Marble excavating, processing machinery for plant with capacity of 3,000 sq. meters of finished marble tile per day. Polat SA (M), 25 Valaoritou St., Thessaloniki. WTD in prep.

35334 — TAIWAN — Pile driving rigs (D40 or same class; D22 or same class). Requests replies as soon as possible to bid on government tender. Dragon Gate Trading Co., Ltd. (I, A), 294 Fo Ho Rd., Yung Ho, Taipei Hsien (234). WTD in prep.

35352 — USSR — Equipment for faster airport baggage handling. Direct purchase & purchase of license for manufacture. Foreign Relations Dept., USSR Ministry of Civil Aviation, Leningradskiy 37, Moscow A-167 (M); V/O Aviaexport Smolenskaya-Sennaya Pl. 32/34, Moscow G-200 (I).

Metalworking machinery

35410 — ISRAEL — Complete unit (including measuring instruments) for manufacture of aluminum spirit levels for building industry. Mepro Ltd. (M, I, exporter), P.O. Box 8048 Tel Aviv. WTD in prep.

35418 — SWITZERLAND — Honing machines and apparatuses. Requests replies as soon as possible. Direct purchase & agency. Hunziker & Co. (I, D), Oberdorfstrasse 18, 3066 Stettlen. WTD in prep.

35480 — JAPAN — Scroll slitting machine to make rotors and stators of elec-

tric motors. Denki Shizai K.K. (I, D), Sankei Bldg., 27 Umeda-cho, Kita-ku, Osaka. WTD in prep.

35481 — JAMAICA — Machine to fabricate corrugated zinc sheets; must be capable of handling sheets 3 ft. wide, one-sixteenth in. thick and 12 ft. long. Quotations: c.i.f. Kingston. Alcan Jamaica Ltd. Attn: G. E. Martin (M, mining of bauxite), Ewarton P. O., Jamaica.

35482—TAIWAN—Pile hammer (10,000 kg-m or more, water-cooled; 6,000 kg-m or more, water-cooled). Requests replies as soon as possible to bid on government tender. Dragon Gate Trading Co., Ltd. (I, A), 294 Fo Ho Rd., Yung Ho, Taipei Hsien (234). WTD in prep.

35484 — USSR — Inspection, servicing, and repair facilities, suitable for upgrading current annual required vehicle inspection into significant safety factor: diagnostic lines. Direct purchase & purchase of licenses for manufacture. Foreign Relations Dept., USSR Ministry of Automobile Industry, Kuznetskiy Most 21/5, Moscow K-215, (M), Foreign Relations Dept., USSR Ministry of Internal Affairs, Ulitsa Ogaryeva 6, Moscow K-9; V/O Autoprominport, Pyatnitskaya Ulitsa 50/2, Moscow ZH-17, (I).

35485—POLAND—Equipment for heat treatment of metals, especially for heat treatment of construction and road-building machinery. Bipro-Bumar, Przedsiembiorstwo Projektowania Przemyslu Maszyn Budowlanych (engineering and design office, construction machine industry), Ulica Nawrot 114, Lodz. Telex 88310 pl. Firm urgently requests catalogs, technical information.

Special industry machinery

●35500 — ALGERIA — Complete equipment, installation, and temporary technicians for modernizing soapstock operation in existing building at Algiers. Tender No. U.P.5; bid deadline Feb. 10. Direction Generale De La Sncg, 13 Ave. Claude Debussy, Algiers, Telex 91739. Correspondence in French required. Specifications in French available on a short term loan basis to firms domiciled in the U.S. from Transportation & Capital Equipment Division, BDC-464, U.S. Dept. of Commerce, Washington, D.C., 20230 ★(202-967-5593).

●35500—SOUTH AFRICA—Continuous slab casting machine and associated equipment. Enquiry N73; bid deadline Feb. 14. The Head, Capital Buying, South African Iron and Steel Industrial Corp. Limited, P.O. Box 450, Pretoria, Transvaal. The enquiry documents are available from ISCOR headquarters, address given above, against a deposit of R200.00 ($280.00) which will only be refunded on receipt of a bona fide tender for the complete plant.

35511—JAMAICA—Automatic ice cream machine: blends ice cream mix, forms ice cream on wooden sticks, flash freezes and bags product. Specifications: makes popsicles, fudges, ice cream novelties at about 200 dozen per hour; 220 volt, 50 cycle, three phase current. Spenco Fisheries Ltd. (Roy Spence), (Fishing Company), 15 Balmoral Ave., Kingston 10. WTD in prep.

35512—UNITED KINGDOM—Automatic pie making machinery, capable of producing approximately 20,000 x 8 oz units per hr; continuous pasteurization plant for pasta products, i.e., ravioli, cannelloni, tortelline. 9. R. F. Brookes (Leicester) Ltd., (Mr. J. Anderson, Mgt. Services Mgr), (M), Magna Rd., Wigston, Leicester LE8 2ZH. WTD in prep.

35513 — ECUADOR — Equipment, complete, to produce cocoa liquor. Output not yet estimated. Catalogs, prices requested. Jorge Medranda Chavez, Attn: Jorge Medranda, Proprietor (Exporter), P.O. Box 4, Manta. WTD 3/72.

35513—ISRAEL—Machines for cracking, shelling and peeling almonds; capacity: between half-ton to five tons per hr. Gidon Yalowsky—Yaloexport Ltd. (I, M, D), 24 Herzl St., Nex-Ziona. WTD in prep.

35513 — JAMAICA — Medium sized machinery to make sausages and process bacon, ham, other pork products; must be geared to 50 cycles, 110/220 volts. Quotations: c.i.f. Kingston. Native Food Packers Ltd., Attn: Mr. Adrian N. Grant (I, M), 7 East Ave., Kingston 5. WTD 11/72.

35513 — SWEDEN — Packaging machinery and equipment for packaging of whole, fresh fish weighing from 700 grams to 1,500 grams (appr. 1.54 lbs to 3.30 lbs); vacuum packaging of frozen shrimp in bags. Fiskcentralen I Stockholm AB. (I, D), Fiskhallsvagen 16-18, S-121 73 Johanneshov. Attn: Mr. S. Gustavsson. WTD 5/72.

35513—UNITED KINGDOM—Meat processing and cooling equipment for handling 15 tons of boneless meat per day and 2 tons of chickens. R. F. Brookes (Leicester) Ltd. Mr. J. Anderson, Mngt. Services Mgr. (M), Magna Rd., Wigston, Leicester LE8 2ZH. WTD in prep.

35521 — KOREA — Polyester staple fiber spinning machinery. Brochures, specifications including terms of delivery. Cheil Wool Textile Industry Co., Ltd. (M, I, D), 50, 1-Ka, Ulchi-ro, Chung-ku, Seoul. Mr. Park Chung-ung, Mgr. Research & Planning. WTD in prep.

35521 — TAIWAN — Fiber net knitting machine (fully automatic). Teh Tai Bed Co., Ltd. (I, D, M), 160 Kuei-Yang St., Sec. 2, Taipei (100). WTD in prep.

35540 — UNITED KINGDOM — Battery manufacturer requires carton making machine or similar which will package battery plates. Need is to make shallow boxes with sidewalls into which a plate is placed, preferably automatically, and box shut and sealed. Box material is special separator material which has general characteristics of this cardboard. Typical box dimensions need to be 14" x 5½" x ¼" with the 14" dimension variable down to 5". Box seam should be down the ¼" side of box. Embassy of the United States of America, Attn: Bradford W. Miller, Jr., Commercial Officer, 24/31 Grosvenor Sq., W. 1, Box FPO New York, N.Y., 09510.

35593 — GREECE — Plant equipment and machinery for manufacture of polyvinylchloride (pvc) flooring and tiles. Plant to have production capacity of 5.5 tons (about 2,000 square meters) of finished flooring and pvc tiles per day. Ameropa-Polat (M), 25 Valaoritou St., Thessaloniki. WTD in prep.

35593 — JAMAICA — Machinery for manufacturing dolls from plastic material. Must be capable of working on 50 cycles, 110/220 volts. Quotations: c.i.f. Kingston. Send brochures on types available. Native Food Packers Ltd., Attn: Mr. Adrian N. Grant (I, M), 7 East Ave., Kingston 5. WTD 11/72.

35593 — THAILAND — Machinery to produce polyolefin ribbons and bows. Technical know-how required. Requests c.i.f. Bangkok prices, catalogs, brochures, literature. Thai Button Industry Ltd., Part. Attn: Mr. Vichien Tirapongsananurak (M, D), 964 Phyathai Rd., Samyarn Mkt., Bangkok. WTD in prep.

35595 — HONDURAS — Complete machinery and equipment for fabrication of all types of mirrors. Correspondence requested in Spanish. Vidrio, S.A. de C.V., Attn: Rodolfo Dubon Bustillo (M), Apartados Postales 925, 760 and 385, Tegucigalpa. WTD in prep.

35595 — JAMAICA — Toy making machinery to manufacture from metal and wood, cars, planes, guns, etc. Quotations: c.i.f. Kingston. Brochures showing the various sizes available also needed. Native Food Packers Ltd., Attn: Mr. Adrian N. Grant (I, M), 7 East Ave., Kingston 5. WTD 11/72.

35595 — JAPAN — Integrated cutting, stripping and soldering equipment for pvc insulated, copper stranded wire—equipment has multiple performances to cut wire (external diameter from 1 to 3 millimeters) with fixed length (adjustable from 3 to 100 centimeters), to strip both terminals of cut wire with fixed length (adjustable from 3 to 30 millimeters), and to solder both terminals to avoid untwisting. Zebra Enterprise, Ltd., Mr. Shiro Takechi, Sales Mgr. (I), Yoshida Bldg., 22-3 Hatchobori 3-Chome, Chu-chuo-ku, Tokyo 104. WTD in prep. If no qualified product available, similar performance equipment is desired.

35595—TURKEY—Machinery & equipment for expansion of existing sunflower seed oil plant from 50,000 ton/year capacity to 100,000 ton/year capacity located at Karacabey in Mursa area; also to set up new sunflower seed oil plant in Elazig, eastern part Turkey. Sungurlar Isi Sanayii A.S. (I, A, M, licensing). Sungurlar Han, Tophane, Istanbul. WTD 11/71.

Commerce Business Daily Publishes Trade Leads

To speed transmittal of these opportunities, the U.S. Foreign Service is now telegraphing them to the United States. They are now being published not only in Commerce Today, *but in* Commerce Business Daily. *The latter is the Commerce Department publication presenting U.S. Government procurement invitations, subcontracting leads, contract awards, surplus property sales and foreign government business opportunities.*

Commerce Business Daily *is sent only to addresses in the U.S. and in U.S. territories and possessions. For annual subscriptions at $25—plus $30.25 if airmail service is desired—send check or money order payable to Superintendent of Documents, with full mailing address, to: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, or to the nearest Commerce Field Office (see list on inside back cover).*

General industrial machinery

●35600—SOUTH AFRICA—Blower for blast furnace 'D'. Enquiry V224; bid deadline Feb. 7. The Head, Capital Buying, South African Iron and Steel Industrial Corp. Ltd., P.O. Box 450, Pretoria, Transvaal. The enquiry documents are obtainable from ISCOR headquarters, address given above, against a deposit of R150.00 ($210) which will only be refunded on receipt of a bona fide tender for the complete plant.

35671 — ITALY — Metalworking furnaces and hardening systems for manufacturing cold rolling cylinders. Direct purchase & agency. OCM Costruzioni Impianti Industriali (M, A, D), Corso Romualdo Marengo 75, 15067 Novi Ligure. WTD 12/72.

35690—SPAIN—Sprinkler systems. Slae S.A. (I, D, M), Carretera Gazolaz S/N, Cizur Mayor (Navarra). WTD 11/72.

Office, computing, accounting machines

35720—KOREA—CKD typewriter parts. KOPG Korean Typewriter Industrial Co., Ltd. (D, M), 111-1, Sokong-Dong, Chung-ku, Seoul. WTD in prep. Firm is designated official supplier of Korean alphabet typewriters to ROKG. Seeking to assemble US typewriters and thus interested not only in direct purchase of parts but also technical assistance.

35730 — USSR — Improved airline ticket sales and check-in system; electronic airport departure and arrival boards; automated airport control systems. Direct purchase & purchase of license for manufacture. Foreign Relations Dept., USSR Ministry of Civil Aviation, Leningradskiy 37, Moscow A-167, (M), V/O Aviaexport, Smolenskaya - Sennaya Pl. 32/34, Moscow G-200, (I).

Service industry machines

35850—UNITED KINGDOM—Freezing plant for freezing in excess of 1,000 x 8 oz. units of unbaked meat pies; in addition to 2,000 x 1 lb. packs of pasta products per hr. R. F. Brookes (Leicester) Ltd., (Mr. J. Anderson, Mngt. Services Mgr.), (M), Magna Rd., Wigston, Leicester LE8 2ZH. WTD in prep.

35850 — USSR — Equipment for circulating and conditioning air in aircraft while standing at airports waiting for take-off. Foreign Relations Dept., USSR Ministry of Civil Aviation, Leningradskiy 37, Moscow A-167 (M), V/O Aviaexport, Smolenskaya-Sennaya Pl. 32-34, Moscow G-200 (I).

35851 — GERMANY — Water cooling towers. Alfred Kaut & Co., Elektrizitaets-Gesellschaft, Abt. Klimatechnik, contact: Herr Iselt (R, I, A), 56 Wuppertal-Eberfeld, Tannenbergstr. 35. WTD 9/72.

35851 — GERMANY — Air-conditioning equipment. Direct purchase & agency. Kaelte-Waerme-Klimatechnik GmbH (KWK), (R, D, I), 151 Silberburgstrasse, D-7000 Stuttgart 1. WTD 12/72.

35852 — GERMANY — Air dehumidifiers. Alfred Kaut & Co., Elektrizitaets-Gesellschaft, ABT. Klimatechnik, Attn: Herr Iselt (R, I, A), 56 Wuppertal-Elberfeld, Tannenbergstr. 35. WTD 9/72.

35853 — GERMANY — Refrigeration equipment. Alfred Kaut & Co., Elektrizitaets-Gesellschaft, ABT. Klimatechnic, Attn: Herr Iselt (R, I, A), 56 Wuppertal-Elberfeld, Tannenbergstr. 35. WTD 9/72.

35853 — GERMANY — Commercial refrigeration equipment. Direct purchase & agency. Kaelte-Waerme-Klimatechnik GmbH (KWK), (R, D, I), 151 Silberburgstrasse, D-7000 Stuttgart 1. WTD 12/72.

35890 — JAMAICA — Full range of swimming pool equipment. Brochures, quotations c.i.f. Kingston requested. Atco Ltd., Attn: Stephen Dunn (I, D, M), 36 Hagley Park Rd., Kingston 10. WTD 11/71.

35892 — GERMANY — Water conditioning plants, water filters and softeners. Alfred Kaut & Co., Elektrizitaets-Gesellschaft, ABT. Klimatechnik, contact: Here Iselt (R, I, A), 56 Wuppertal-Elberfeld, Tannenbergstr. 35. WTD 9/72.

35892 — USSR — Mechanized equipment for washing aircraft. Direct purchase & purchase of license for manufacture. Foreign Relations Dept., USSR Ministry of Civil Aviation, Leningradskiy 37, Moscow A-167 (M), V/O Aviaexport, Smolenskaya - Sennaya Pl. 32/34, Moscow G-200, (I).

Electric transmission, distribution

36110 — SPAIN — Electronic measuring instruments. Comisa Ingenieros (A, D, R), Comandante Zorita 53, Madrid 20. WTD 11/72.

Electrical industrial apparatus

36230 — ISRAEL — Complete welding unit (TIG type) for automatic stickwelding (without overlap) PF thin-wall muffler tubes. Sizes of tubes: 1 to 2.1/2 inches diameter; thickness: 1/32 to 3/32 inches; length: between 1.1/2 to 30 inches; minimum welding speed: 2 feet length per minute. Equipment should be able to overcome any perforations that may occur in welding places. O.B. Part. Ltd. (M), 15 Hatzfira St., Tel Aviv. WTD in prep.

Household appliances

36343 — GERMANY — Air humidifiers. Alfred Kaut & Co., Elektrizitaets-Gesellschaft, ABT. Klimatechnik, Attn: Herr Iselt (R, I, A), 56 Wuppertal-Elberfeld, Tannenbergstr. 35. WTD 9/72.

36343 — KOREA — Humidifiers, portable household. Brochures, quotations requested. Sung Pung Enterprises Co. (I, A, D), I.P.O. Box 2089, Seoul. WTD 6/71.

Electric lighting, wiring equipment

36426 — JAPAN — High quality gas lanterns for camping use. B & A Consultants Corp. (I, D), 3-212-2, Oyamadai Setagaya-ku, Tokyo 158. Attn: Mr. H. B. Lynch. WTD in prep.

Radio, television receiving sets

36510—FRENCH WEST INDIES—Color TV receivers provided without cabinets; cabinets will be provided locally. St. Lucia Broadcasting Co. (Television Station), C/o Yvon Roussel, Enclos, Schoelcher, Martinique. WTD in prep.

36510—GERMANY—Audio equipment—speaker systems, speaker monitors, magnetic loudspeakers, FM tuners, phonograph record cutting styli, sound reproducing equipment, except motion picture (only high quality). Manfred Raab—Transaudio (I), 82 Richard Wagner Strasse, 7 Stuttgart 1. WTD 12/72.

36511 — SPAIN — High-fidelity radios, panel radio-phonograph combinations. Auto-Servei, Attn: Mr. Ferran Font (I, D, R), Avda. Meritxell, 76, Andorra la Vella, Principat D'Andorra. WTD 11/72.

36514 — SPAIN — High-fidelity phonographs, record players, tape recorders, timers and accessories. Auto-Servei, Attn: Mr. Ferran Font (I, D, R), Avda Meritxell, 76 Andorra la Vella, Principat D'Andorra. WTD 11/72.

Communications equipment

36612—SPAIN—Transmission equipment in general; facsimile equipment in particular. Cosesa (Affiliate of Compania Telfonica Nacional de Espana), (end user), Paseo de la Castellana 112, 6th, Madrid 6. WTD 3/71.

36620 — FRENCH WEST INDIES — Equipment, installation of same, for color television transmission facilities (NTSC) on St. Lucia and Dominica. St. Lucia Broadcasting Co. (television station), c/o Yvon Roussel, Enclos, Schoelcher, Martinique. WTD in prep.

36625 — USSR — Technical means for regulating traffic movement (stoplight timing devices; radar for checking speed of vehicles; modern electronic traffic control equipment; such as speed limit signs which change according to traffic conditions, etc.). Direct purchase and purchase of licenses for manufacture. Foreign Relations Dept., USSR Ministry of Automobile Industry, Kuznetskiy Most 21/5, Moscow K-215, (M); Foreign Relations Dept., USSR Ministry of Internal Affiars, Ulitsa Ogaryeva 6, Moscow K-9; V/O Autoprominport, Pyatnitskaya Ulitsa 50/2, Moscow ZH-17, (I).

Electronic components, accessories

36790—SPAIN—Electronic components. Comisa Ingenieros (A, D, R), Comandante Zorita 53, Madrid 20. WTD 11/72.

36795 — BELGIUM — Remote controls and remote reading meters (for private electricity and gas meters at home). Direct purchase & agency. SPRL, Comexterieur, PVBA (I, D, A, wholesaler), Rue Fernand Neuray 17, 1060 Brussels. WTD in prep.

Motor vehicles, equipment

37110—TAIWAN—Jeep (155 hp, gasoline engine, 125 kph, 4-wheel drive, seating capacity 8 persons, hard top yearround all weather utility vehicle), or equal. Requests replies as soon as possible to bid on government tender. Dragon Gate Trading Co., Ltd. (I, A), 294 Fo Ho Rd, Yung Ho, Taipei Hsien (234). WTD in prep.

37141 — GERMANY — Engine parts for motor vehicles. Theo Decker, contact: Herr Decker (M, I, D), 43 Essen-Borbeck, Bocholder Str. 185. WTD in prep.

37141—SPAIN—Parts, accessories for passenger cars. Auto-Servei, Attn: Mr. Ferran Font (I, D, R), Avd. Meritxell, 76, Andorra la Vella, Principat D'Andorra. WTD 11/72.

Aircraft, parts

37224 — GERMANY — Aircraft components and parts, especially for light single and twin aircraft. Direct purchase & agency. Aerko KG—Ing. Grad. Hanno Koehler (Importer and repair service and

overhaul of aircraft), D-7971 Leutkirch/ Unterzell, Flugplatz. WTD 10/72.

Ship building, repairing

37310—JAMAICA—Used shrimp boat, or similar vessel (i.e., surplus US fast patrol vessel) to transport large quantities of fresh fish in iced storage or under refrigeration. Vessel size: minimum 80 ft; maximum 110 ft. Cost not to exceed approx US $22,000. Spenco Fisheries Ltd., (Roy Spence), (fishing company), 15 Balmoral Ave., Kingston 10. WTD in prep. Boat to be used to haul fish from Pedro Cays to Jamaica. Basic, good hull and motor without frills required.

37313 — TAIWAN — Tug boat, anchor boat. Requests replies as soon as possible to bid on government tender. Dragon Gate Trading Co., Ltd. (I, A), 294 Fo Ho Rd., Yung Ho, Taipei Hsien (234). WTD in prep.

Motorcycles, bicycles, parts

37510—SPAIN—Motorcycles and parts. Auto-Servei, Attn: Mr. Ferran Font (I, D, R), Avda. Meritxell, 76, Andorra la Vella, Principa D'Andorra. WTD 11/72.

Engineering, laboratory, scientific, research instruments

38110 — JAMAICA — Scientific, medical and laboratory equipment. Catalogs, quotations c.i.f. Kingston requested. Direct purchase & agency. Atco Ltd., Attn: Stephen Dunn (I, D, M), 36 Hagley Park Road, Kingston 10. WTD 11/71.

38112—GERMANY—Laboratory testing and scientific instruments. C. A. Greiner & Soehne (M), 9 Galgenbergstrasse, D-7440 Nuertingen. WTD 12/72.

Instruments for measurement analysis and control

38213—GERMANY—Complete prints for logic controls for paper industry machinery. Specification; proximity input and light barrier input (photo cell); thyristor output for magnets 10 or 15 a, 110 or 220 v. ac/dc output for valves 24 v 0.5 a. Winkler & Dunnebier Maschinenfabrik, contact: H. Bueter (M), 545 Neuwied, Postfach 2340. WTD 9/71.

38216 — ITALY — Bottle testing sorting machines for identifying shape, size irregularities, minimum speed required 12,000 bottles per hour. Martini e Rossi SPA (D, M), 10020 Pessione, Torino. WTD in prep.

Surgical, medical, dental instruments

38423 — USSR — Specialized protective clothing for miners and for workers handling coolants and organic solvents; protective glasses against dust, spray from harmful liquids, and bright light from high temperature sources (e.g. welding). Direct purchase & purchase of licenses for manufacturing. Foreign Relations Dept., USSR Ministry of Light Industry, Prospekt Kalinina 29, Moscow G-19 (M); Foreign Relations Dept., USSR Ministry of Health, Rakhmanovskiy Pereulok 3, Moscow K-51; V/O Raznoexport, Verkhne-Krasnoselskaya Ulitsa 15, Moscow B-140 (I).

Photographic equipment

38611—ISRAEL—Still camera including view and studio, flash units, exposure meters, processing equipment for taking colored passport pictures. Technotome Ltd. (A, I), 263 Dizengoff St., Tel Aviv. WTD in prep.

38611—SWITZERLAND — Underwater cameras, still. Neuburger Sport (I, R), Werdstr. 4, Ch-8004 Zurich. WTD 12/72.

38613—SWITZERLAND — Underwater cameras, motion picture. Neuburger Sport (I, R), Werdstrasse 4, Ch-8004 Zurich. WTD 12/72.

Toys, amusement, sporting goods

39410 — FRANCE — Outdoor games (all types). Direct purchase & agency. C.O.F.A.D.I.S. (I, D), 169 Bis, Rue de la Roquette, 75011 Paris. WTD in prep.

39492—JAPAN—Golf clubs, irons and woods; shafts, grips, etc. Osaka Morita Golf Co. Ltd. (D, R, M), 37-1 Sonezaki Kami 1-Chome, Kita-ku, Osaka. WTD in prep.

39493 — GERMANY — Safety helmets, motor cycle. Wesda, Freizeit U. Technik Handels GmbH, contact: Herr Glasmacher (I, D), 4032 Lintorf, An Den Dieken. WTD 10/72.

39493 — JAPAN — High quality sports goods such as snow skis, water skis, archery equipment. B & A Consultants Corp. (I, D), 3-12-2, Oyamadai, Setagaya-ku, Tokyo 158. Attn: Mr. B. Lynch. WTD in prep.

39493 — SWITZERLAND — Skin diving (scuba) equipment, aqualungs, face masks, water skis, harpoons, other attachments. Neuburger Sport (I, R), Werdstr. 4, Ch-8004 Zurich. WTD 12/72.

Antique, secondhand stores

59310—JAPAN—High quality used carpets, large size for office use. B & A Consultants Corp. (I, D), 3-12-2, Oyamadai, Setagaya-ku, Tokyo 158. Attn: Mr. B. Lynch. WTD in prep.

Agencies

Specific foreign firms have expressed interest in agency agreements for the products listed below. Exclusive agencies for these products are wanted only if specified.

Grain mill products

20421—CANADA—Ingredients and additives (including minerals) used by poultry feed manufacturers. Marketed either on sales commission-agent or wholesaler-distributor basis. Exclusive representation for Canada desired. Mr. Fern Corbeil, Gen. Mgr., Patteson & Corbeil Inc. (I, A, D), Suite C-611, Havre des Iles, Laval, Quebec. WTD 2/72.

20422—CANADA—Ingredients and additives (including minerals) used by livestock feed manufacturers. Marketed either on sales commission-agent or wholesaler-distributor basis. Exclusive representation for Canada desired. Mr. Fern Corbeil, Gen. Mgr., Patteson & Corbeil Inc. (I, A, D), Suite C-611, Havre des Iles, Laval, Quebec. WTD 2/72.

20423—CANADA—Ingredients and additives (including minerals) used by pet food manufacturers. Marketed either on sales commission-agent or wholesaler-distributor basis. Exclusive representation for Canada desired. Mr. Fern Corbeil, Gen. Mgr., Patteson & Corbeil Inc. (I, A, D), Suite C-611, Havre des Iles, Laval, Quebec. WTD 2/72.

Bakery products

20522 — FRANCE — Cookies, ice cream cones. Etablissements Marcel Bur (I, D), 23, Avenue D'Argenteuil, 92600 Asnieres.

Broad woven fabric mills, cotton

22113 — BELGIUM — Cotton print cloth yarn fabrics (gray goods), broadwoven. Claushuis, SPRL, Agences en Textile (A), 22 Place du Nouveau Marche aux Grains, 1000 Brussels. WTD in prep.

22117—GERMANY—Printed cotton fabrics. Ernst Vetter (A), 638 Bad Homburg V.D.H., Hollsteinstrasse 14. WTD 11/72.

Broad woven fabric mills, manmade fiber, silk

22219 — BELGIUM — Draperies, manmade fiber fabrics. Claushuis, SPRL, Agences en Textiles (A), 22 Place du Nouveau Marche Aux Grains, 1000 Brussels. WTD in prep.

Yarn, thread mills, products

22823—HONDURAS—Polyester filament yarn for manufacture of polyester fabrics. Agencia Satelite, Attn: Mario Garcia Perla (A, D), 1A. Calle, 7-8 Avenidas, Tegucigalpa. WTD 7/72.

22842—ISRAEL—Cotton thread for making material for tarpaulins, in thicknesses: 8/1, 10/1 and 12/1 particularly in quality known as 7.1/16. J. Ezra Ltd. (I, D, exporter), 6 Khayat St., Haifa. WTD in prep.

Fabricated textile products

23990—ITALY — Automatically retractible automobile seat belts. Brunnero E. Sartoris (A, D), Via Sacchi 54, 10128 Torino. WTD 11/72.

23990—SPAIN—Automobile safety belts. Louis H. Heydeman (A), Marina 10, Santa Cruz de Tenerife, Canary Islands. WTD 4/72.

Millwork, veneer, plywood, prefabricated structural wood items

24332—BELGIUM—Building parts, sections and panels, wood, for prefabricated, ready-cut buildings. S. A. Carmeuse (M, I, A), rue du Chateau, 13A, B 5210 Seilles. WTD in prep.

Wood products

24996—BELGIUM—Building board, hard pressed wood fiber. S. A. Carmeuse (M, I, A), Rue du Chateau, 13A, B 5210 Seilles. WTD in prep.

Household furniture

25110 — BELGIUM — Furniture in wood (for home). Claushuis, SPRL (A), 22 Place du Nouveau Marche aux Grains, 1000 Brussels. WTD in prep.

25110—JAMAICA—Wooden furniture—household type. Quotations: c.i.f. Cayman Islands. Brochures needed. Home Supplies Ltd., Attn: Mr. Brian Finnigan (I, A, R), Shedden Rd., P.O. Box 291, Grand Cayman. WTD 11/72.

Partitions, shelving, store fixtures

25410—PORTUGAL—Decorative panels;

partitions for dividing room areas; made of durable materials. Novas Tecnicas de Contrucao e Decoracao, Lda. (I, A), Rua do Centro Cultural 43, Lisbon 2. WTD in prep.

25420—PORTUGAL — Aluminum acoustical partitions. Novas Tecnicas de Contrucao e Decoracao, Lda. (I, A), Rua do Centro Cultural 43, Lisbon 2. WTD in prep.

Pulp mills, products

26111—GERMANY—Pulp for production of paper and board. Jabs, Schuett & Co. (I, A), 2 Hamburg 76, Stormsweg 5. WTD in prep.

26112 — GERMANY — Dissolving pulp. Jabs, Schuett & Co. (I, A), 2 Hamburg 76, Stormsweg 5. WTD 1/72.

Paper mills

26210—GERMANY—Fluffing for production of diapers, sanitary towels. Jabs, Schuett & Co. (I, A), 2 Hamburg 76, Stormsweg 5. WTD 1/72.

26211—GERMANY — Paper—newsprint. Jabs, Schuett & Co. (I, A), 2 Hamburg 76, Stormsweg 5. WTD 1/72.

Paperboard mills, products

26315—GERMANY—Fully bleached and semi bleached board. Jabs, Schuett & Co. (I, A), 2 Hamburg 76, Stormsweg 5. WTD 1/72.

26315 — GERMANY — Kraftliner board. Gerd G. Jung (A, I, D), 46 Haendelstr., 6232 Bad Soden/ts. WTD 12/72.

Converted paper, paperboard items

26416 — GERMANY — Machine coated paper, packaging, other purposes. Gerd G. Jung (A, I, D), 46 Haendelstr., 6232 Bad Soden/ts. WTD 12/72.

26440 — PORTUGAL — Wallpaper; machine printed, screen or hand-painted. Novas Tecnicas de Contrucao e Decoracao, Ltd. (I, A), Rua do Centro Cultural 43, Lisbon 2. WTD in prep.

Building paper, building board mills

26611—PORTUGAL—Acoustical tiles for ceilings. Novas Tecnicas de Contrucao e Decoracao, Ltd. (I, A), Rua do Centro Cultural 43, Lisbon 2. WTD in prep.

26611—TAIWAN—Insulating paper. Tee Lee International Corp. (I, D, A), 15 Hankuo St., Sec. 1, Taipei (100). WTD 4/71.

Greeting card manufacturing

27711—THAILAND—Birthday greeting cards. Requests c.i.f. Bangkok prices, catalogs, samples. F. Abbas R.O.P. (I, D), 1200-4 New Rd., Near G.P.O., P.O. Box 1690, Bangkok. WTD in prep.

Industrial chemicals

28180—FRANCE—Organic chemicals for paint, varnish, plastics and industrial adhesive industries. Petrofrance Chimie (M, A, D), 42 Ave. Raymond Poincare, 75016 Paris. WTD 6/71.

28190 — FRANCE — Inorganic chemicals for paint, varnish, plastics and industrial adhesive industries. Petrofrance Chimie (M, A, D), 42 Ave. Raymond Poincare, 75016 Paris. WTD 6/71.

28199—TAIWAN — Phosphorous bronze sheets. Tee Lee International Corp. (I, D, A), 15 Hankuo St., Sec. 1, Taipei (100). WTD 4/71.

Synthetic materials

28213 — AUSTRIA — Polystyrene, other styrene resins. Specifications, price quotations requested from manufacturers only. Pointer & Rothschaedl Chemikalien-Handels-Ges.M.B.H. (I, A, D), Muenchner Bundesstrasse 121, P.O.B. 82, A-5021 Salzburg. WTD 2/71.

28213 — GERMANY — Granulate and/or powder for production of plastics. Jabs, Schuett & Co. (I, A), 2 Hamburg 76, Stormsweg 5. WTD 1/72.

28219 — TAIWAN — Vulcanized fiber sheets. Tee Lee International Corp. (I, D, A), 15 Hankuo St., Sec. 1, Taipei (100). WTD 4/71.

28220 — SWITZERLAND — Pyrometers, electronically controlled. Rosemount Engineering AG (I, A, D), P.O. Box 1140, Attn: Mr. H. P. Zwicky, 6301 Zug.

Drugs

28331 — AUSTRIA — Radio-pharmaceutical products. Specifications, prices requested. Herba, Attn: Dr. Unterrainer (I, A, D), Michelbeuerngasse 9A, A-1090 Vienna. WTD 2/72.

Soap, detergents, cleaning preparations, perfumes, cosmetics

28423 — BELGIUM — Cleaners, brush, paint, toilet bowls, wallpaper, glass, rugs, and upholstery wall; cleaners, solvents for rugs, carpets. SPRL, DuPont—Drion, (home cleaning service) (I, A, services in the maintenance field), 41 Rue Baron de Castro, 1040 Brussels (workshop) and 94 Rue Antoine Gauthier, 1040 Brussels (offices). WTD in prep.

28423 — ITALY — Dry cleaning spotting preparations. Colortex Industria Chimica (I, D), via Leopardi 9-11, 20091 Bresso (Milano). WTD in prep.

28443 — PORTUGAL — Shampoos, hair dressings and coloring products. Novas Tecnicas de Contrucao e Decoracao, Lda. (I, A), Rua do Centro Cultural 43, Lisbon 2. WTD in prep.

Paints, varnishes, lacquers, enamels

28516 — THAILAND — Automotive body fillers. Exclusive distributorship franchise required. Requests c.i.f. Bangkok prices, samples, brochures. Muller & Phipps (Thai) Ltd., Attn: Ray Simkins (I, D, A), G.P.O. Box 392, Bangkok. WTD in prep.

Agricultural chemicals

28790—ISRAEL — Trace elements (premixes) for animal feed. Feed Mills Services (A, I, D), 17 Ben Zion Blvd., Tel Aviv. WTD in prep.

Chemical products

28930—THAILAND—Lithographic inks. Requests c.i.f. Bangkok prices, samples. F. Abbas R.O.P. (I, D), 1200-4 New Rd., Near G.P.O., P.O. Box 1690 Bangkok. WTD in prep.

28993—FRANCE—Chemicals for metallurgy and cosmetics industries. Petrofrance Chimie (M, I, A, D), 42 Ave. Raymond Poincare, 75016 Paris. WTD 6/71.

28993 — JAPAN — Foundry chemicals, molding and melting materials. Imoken Shoji Co., Ltd. (D), 75 Edobori 5-Chome, Nishi-ku, Osaka. WTD in prep.

Plastic products

30793—TAIWAN—Bakelite plates, laminated sheet for making of PC board (various types); varnished cotton and plastic cloths, tubes, tapes. Tee Lee International Corp. (I, D, A), 15 Hankuo St., Sec. 1, Taipei (100). WTD 4/71.

30794 — SPAIN — Plastic plugs, flanges, closures for 55 gallon drums. Louis H. Heydeman (A), Marina 10, Santa Cruz de Tenerife, Canary Islands. WTD 4/72.

30796 — PORTUGAL — Plastic floor and wall coverings, PVC tiles, and other construction plastic products. Novas Tecnicas de Contrucao e Decoracao, Lda. (I, A), Rua do Centro Cultural 43, Lisbon 2. WTD in prep.

Pottery, related products

32610 — PORTUGAL — Vitreous china bathroom sanitary accessories. Novas Tecnicas de Contrucao e Decoracao, Lda. (I, A), Rua do Centro Cultural 43, Lisbon 2. WTD in prep.

Concrete, gypsum, plaster products

32751—BELGIUM — Building materials, gypsum. S. A. Carmeuse (M, I, A), Rue du Chateau, 13A, B 5210 Seilles. WTD in prep.

Abrasive, asbestos, nonmetallic mineral products

32910 — SWITZERLAND — Rubber bonded abrasives. Willi Metzger & Co. (I, A, D), Freiestr. 48, 8952 Schlieren, ZH. WTD 10/71.

32961—PORTUGAL—Mineral wool for structural insulation. Novas Tecnicas de Contrucao e Decoracao, Lda. (I, A), Rua do Centro Cultural 43, Lisbon 2. WTD in prep.

Steel mill products

33120 — ISRAEL — Stainless steel in sheets, tubes and rods for manufacture of refrigeration equipment, sanitary ware, etc. Henry Goldberg (A, D), P.O. Box 33217, Tel Aviv. WTD in prep.

33122 — COLOMBIA — Stainless steel sheets; alloy steel ingots and sheet bars. Halaby & Co. Ltd. C.E. (A), Edificio la Ceiba Piso 9, Medellin. WTD 11/72. Requests offers from manufacturers only.

33127—TAIWAN—Steel sheets. Tee Lee International Corp. (I, D, A), 15 Hankuo St., Sec. 1, Taipei (100). WTD 4/71.

Primary smelting, refining of nonferrous metals

33300—ISRAEL—Nonferrous metal sections up to 3-in. diameter, including copper, copper alloy, aluminum, etc., for manufacturing purposes. Henry Goldberg (A, D), P.O. Box 33217, Tel Aviv. WTD in prep.

Rolling, drawing, extruding of nonferrous metals

33560—GERMANY—Special metals for electronic industry, except metallic preforms. Demetron GmbH (M), 6450 Hanau/Mai, Postfach 207. WTD 12/72.

33574—CANADA—Coaxial cable. Exclusive representation throughout Canada desired. John G. Weis Co. Ltd. (I, A, D), 5725 Monkland Ave., Montreal 260, Quebec. WTD 12/72.

33575 — THAILAND — Mesh wire cloth, aluminum, for insect screening packed in roll. Prefers to deal with manufacturers. Requests c.i.f. Bangkok prices, catalogs, samples. Dhonburi Clory (1959) Ltd., Part. (I, D), 910 King Taksin Rd., G.P.O. Box 2545, Bangkok. WTD in prep.

Primary metal industries

33910 — NORWAY — Anchor chains and shackles for oil drilling platforms, dimensions—2 in. upwards; anchors for oil drilling platforms, weight—1 ton upwards. Requests replies as soon as possible; products urgently needed. Anton G. Rosenberg (I, A), Mollendalsvei 8, 5000 Bergen. WTD 10/72.

Cutlery, hand tools, general hardware

34291 — FRANCE — Automobile hardware. Siepa Nice S.A. (D), Zone Industrielle Departementale—Travee F 06510 Carros. WTD 11/72.

34294—BELGIUM—Builders' hardware. S. A. Carmeuse (M, I, A), Rue du Chateau, 13A, B 5210 Seilles. WTD in prep.

Heating apparatus, plumbing fixtures

34310 — PORTUGAL — Stainless steel sinks. Novas Tecnicas de Contrucao e Decoracao, Lda. (I, A), Rua de Centro Cultural 43, Lisbon 2. WTD in prep.

34334—UNITED KINGDOM—Combination heating/ventilating system for mobile homes (trailers). Maclaren Controls Ltd., Attn: L. R. Milward, Mng. Dir. (M, D, exporter), 333 West St., Glasgow G5 8JE, Scotland.

34336—THAILAND—Steam boilers for hospital use. Requests c.i.f. Bangkok prices, catalogs, brochures. Thai Engineering & Equipment Ltd., Partnership, Attn: Mr. Pleng Punlee. (A, D, I), 1182/1 Nakorn Chaisri Rd., Bangkok 3. WTD in prep.

Fabricated structural metal products

34443 — PORTUGAL — Suspended type ceilings. Novas Tecnicas de Contrucao e Decoracao, Lda. (I, A), Rua do Centro Cultural 43, Lisbon 2. WTD in prep.

Metal stampings

34613 — JAMAICA — Blank reflectorized automobile license plates. Brochures, quotations c.i.f. Kingston requested. Size: 12 inches by 6 inches. Import-Export, contact: F. A. Bentham (I, A), 18 Lady Musgrave Rd., Kingston 5. WTD 11/72. Reflectorized license plates are required and now being issued for new cars in Jamaica.

34614 — PORTUGAL — Kitchen cooking utensils. Novas Tecnicas de Contrucao e Decoracao, Lda. (I, A), Rua do Centro Cultural 43, Lisbon 2. WTD in prep.

Fabricated wire products

34810—SPAIN—Kidney dialysis equipment. Jose M. Navarette, Div. Electromedicina, General Electriclespanola, S.A. (A, D, M), Doctor Esquerdo, 187, Madrid 7. Interested in either representing U.S. exporter of sophisticated kidney dialysis equipment or in discussing possible manufacture under license.

Fabricated metal products

34940 — UNITED KINGDOM — Electric valve actuators for control of wedge gate valves, penstocks, globe valves, plate valves and ball valves; pneumatic 90 degree valve actuators for control of ball and plus valves. Taylair Control Ltd. (I, D), 295 Great Brickkiln St., Wolverhampton, Staffordshire. WTD in prep.

34943—BELGIUM—Valves, molded and forged. A.E.I. S.P.R.L.—L' Auxiliare de L'Equipement Industriel (A, D), Blvd. Lambermont 304, 1030 Brussels. WTD in prep.

34943 — BELGIUM — Valves for compressed gas cylinders; metal, for piping systems, except plumbing, heating valves. SPRL, Comexterieur, PVBA (I, D, A, wholesaler), Rue Fernand Neuray, 17, 1060 Brussels. WTD in prep.

34945—BELGIUM—Flanges ASA—150-300-600. A.E.I. S.P.R.L.—L' Auxiliaire de L'Equipement Industriel (A, D), Blvd. Lambermont 304, 1030 Brussels. WTD in prep.

Farm machinery

35221—MALAWI—Agricultural tractors and implements. Press (Holdings) Ltd. (A, D, R), Box 1227, Blantyre. WTD in prep.

35227—FRANCE—Lawn mowers with internal combustion motors (2 and 4 cycle) and rotary blades. Compagnie Francaise de l'Afrique Occidentale (A, D, R), 7 Place d'Iena, 75—Paris 16. WTD 8/71.

35227 — JAMAICA — Mechanical lawnmowers, spare parts. Catalogs, quotations c.i.f. Kingston requested. Import-Export, Attn: F. A. Bentham (I, A), 18 Lady Musgrave Rd., Kingston 5. WTD 11/72.

35228—UNITED KINGDOM—Precision feed formulators for agricultural use. Maclaren Controls Ltd., Attn: L. R. Milward (M, D, exporter), 333 West St., Glasgow G5 8JE, Scotland.

Construction, mining, materials handling machinery, equipment

35314 — PAKISTAN — Cranes truck-mounted, full circle capacity 50 ton. Requests catalogs, quotations, c and f, Karachi. S. M. Jaffer & Co. (I, A), Jaffer House, 17 Timber Pond, M.A. Jinnah Rd., P.O. Box No. 4488, Karachi-7. WTD 10/72.

35316—JAMAICA—Concrete machinery: power trowels, power dumpers, power mixers. Brochures, price lists requested. Exclusive agency. Shoreline Tractor & Equipment (Jamaica) Ltd., Attn: Peter J. Coslett (I, A, D), 57A Old Harbour Rd., Spanish Town. WTD in prep.

35316 — PAKISTAN — Pavers, concrete finishers and spreaders. Requests catalogs, quotations, c. & f. Karachi. S. M. Jaffer & Co. (I, A), Jaffer House, 17 Timber Pond, M.A. Jinnah Rd., P.O. Box No. 4488, Karachi-7. WTD 10/72.

35318—FRANCE—Hydraulic cranes of capacity of 5, 6 and 7 metric tons to be mounted on trucks or tractors. Compagnie Francaise de l'Afrique Occidentale (A, D, R), 7 Place d'Iena, 75—Paris 16. WTD 8/71.

35318 — PAKISTAN — All kinds of vehicles, equipment for heavy construction work — especially dumptrucks, cranes, rollers. Requests catalogs, prices c and f, Karachi. S. M. Jaffer & Co. (I, A), Jaffer House, 17 Timber Pond, M.A. Jinnah Rd., P.O. Box No. 4488, Karachi-7. WTD 10/72.

35319 — VIETNAM — Supply of winches suitable for installation on fishing boats from 40 to 300 tons. Chantiers des Ateliers Reunis d'Indochine (CARIC) (I, D, M), 17 Ben Bach Dang, P.O. Box F-6 Saigon. WTD in prep. Cable address: Carindo-Saigon.

Metalworking machinery

35412 — UNITED KINGDOM — Precision drill, numerically controlled, for drilling printed circuit boards used in electronics. Quest Automation Ltd. (M, D, exporter), Ferndown Industrial Estate, Stapehill, Wimborne, Dorset BH21 7NP. WTD in prep.

35420—COLOMBIA—Metal working machinery and equipment—machine tools, all types. Halaby & Co. Ltd. C.E. (A), Edificio la Ceiba Piso 9, Medellin. WTD 11/72. Requests offers from manufacturers only.

35451—SWITZERLAND—Tungsten and carbide tipped tools; chip collecting tools for machine tools. Willi Metzger & Co. (I, A, D), Freiestr. 48, 8952, Schlieren. WTD 10/71.

35452 — ISRAEL — Precision measuring tools for metalworking; to include micrometers, calipers, dial indicators, pneumatic gages (manual/automatic), toolroom specialities and machinists' precision tools. Gil-Technic Co. Ltd. (I, A, D, servicing), 5 Kurazim St., P.O. Box 815, Givatayim. WTD in prep.

35484 — FRANCE — Automotive maintenance equipment. Siepa Nice S.A. (D), Zone Industrielle Departementale—Travee F 06510 Carros. WTD 11/72.

35480 — ISRAEL — Machinery/equipment/related tooling for spooling welding wire. David Eisen Machinery Ltd. (I, A), P.O. Box 35013, Tel Aviv. WTD 10/72.

35482 — THAILAND — Air-powered woodworking machines; i.e., nail driver, wood borer, circular saw, reciprocating saw, etc. Requests c.i.f. Bangkok prices, catalogs, brochures. Siam Mercantile (1960) Co., Ltd. (I, D, A), S.M.C. Bldg., 117 Suriwongse Rd., P.O. Box 1345, Bangkok. WTD in prep.

Special industry machinery

35513 — UNITED KINGDOM — Food packaging machines other than cartons such as form filled seal machines, heat sealing equipment for polyethylene, laminated films. Specialized conveyors, product handling machinery. Company is interested in an agency agreement only on the understanding that this will lead to an eventual manufacturing arrangement once the market has been established. Whitehall Machinery Ltd., Attn: M. J. Howell (M), Chalks Rd., Whitehall, Bristol BS5 9 ER. WTD in prep.

35513 — UNITED KINGDOM — Food products packaging machinery. Embassy of the United States of America, Attn: Commercial Officer, T065; 24/31 Grosvenor Sq. W. 1, Box 40, FPO New York, N.Y. 09510.

35513—UNITED KINGDOM—Machinery for glass container industry and specialized machinery for producing and filling tea-bags, similar sachets. British Hartford-Fairmont Ltd., Mr. A. M. Evans, Asst. Mng. Dir. (M), Rockware Ave., Greenford Middlesex. WTD in prep.

35540—THAILAND—Machinery to produce sanitary napkins. Technical know-how required. Requests c.i.f. Bangkok prices, catalogs, brochures, literature. J. Trading Ltd. Part., Attn: Mr. J. Jumnong (I, D, A), 3669/4 Rama IV Rd., Bangkok 11. WTD in prep.

35593 — AUSTRIA — Manufacturer of polyurethane plastics processing machinery seeks to supplement sales program by handling as manufacturers' representative other plastics processing machinery, equipment. Pe-U-Tec Ges.M.B.H. (consulting engineers), Gallmeyergasse 16, A-1190 Vienna. WTD 3/72.

35595—JAMAICA — Desalination equipment; sizes should range from 100 gals.

to 2 million gals. a day capability. Quotations: c.i.f. Kingston. D & G von der Porten, Attn: Mr. G. von der Porten (I, A, D), 4 Arlington Ave., Kingston 2. WTD 12/72.

35595—SPAIN—Petroleum refinery machinery, equipment. Louis H. Heydeman (A), Marina 10, Santa Cruz de Tenerife, Canary Islands. WTD 4/72.

35595 — SWITZERLAND — Materials, tools, accessories for sandblasting machinery and jobs. Willi Metzger & Co. (I, A, D), Freiestr. 48, 8952 Schlieren, ZH. WTD 10/71.

General industrial machinery

35610—GERMANY—Piston compressors, 4500 p.s.i., chemical proportioning pumps, pressure transducers. Nova Hochdruck GmbH (I, A, D), D-6242 Kornberg/Taunus, In Der Schneithohl. WTD 12/72.

35611—JAPAN—Primary circuit nuclear reactor pumps; magnetically driven pumps. Honda Kiko, K.K. (M), 17-24, Hakataeki-Minami, 3-Chome, Fukuoka, 812. WTD in prep.

35613—JAMAICA—Pump sets for domestic water systems; electrical or gasoline powered. Quotations c.i.f. Kingston. Brochures with available sizes needed. Wills Battery Co. Ltd., Attn: W. D. Soutar (I, A, D), 66 Slipe Rd., Kingston 5. WTD 11/72. Electrical powered units should be capable of operating on 50 cycles, 110/220 volts.

35663 — BELGIUM — Couplings, steel forged, 3000 and 6000. A.E.I. S.P.R.L.—L'Auxiliaire de L' Equipement Industriel (A, D), Blvd. Lambermont 304, 1030 Brussels. WTD in prep.

35690 — UNITED KINGDOM — Packaging machines for general industrial use. Embassy of the United States of America, Attn: Commercial Officer, T064; 24/31 Grosvenor Sq. W. 1, Box 40, FPO New York, N.Y. 09510.

Office, computing, accounting machines

35730 — SPAIN — Acoustically coupled modems. Payma, S.L. (A, D, I), Enrique Larreta 9, Madrid 16. WTD 2/72.

35731—FRANCE—Scientific and industrial computers, peripherals. Sopra (A, D), 7, Boulevard de la Rocade, 74-Annecy. Attn: Mr. Francois Odin. WTD in prep.

35731—FRANCE—EDP peripherals and card-readers. Promodata (A, D), 1, Rue Lord Byron, 75008 Paris. WTD 11/72.

35731—SWEDEN—Electronic data processing equipment for hospital administrative applications. AB P. A. Segenmark (I, A, D), Industrivagen 4, S-191 47 Sollentuna 1. WTD 4/72.

Service industry machinery

35820—BELGIUM — Washer-extractors, commercial laundry. Ateliers de Construction Mench S.A. (M, I), 23 Rue Aug. Snieders, 1030 Brussels. WTD in prep.

35852—MALAWI—Domestic air conditioners. Press (Holdings) Ltd. (A, D, R), Box 1227, Blantyre. WTD in prep.

35853 — VIETNAM — Refrigeration and freezing equipment for agribusinesses and fishing boats from 40 to 300 tons. Chantiers des Ateliers Reunis d'Indochine (CARIC) (I, D, M), 17 Ben Bach Dang, P.O. Box F-6 Saigon. Cable Address: Carindo-Saigon. WTD in prep.

35857 — UNITED KINGDOM — Automotive air conditioning equipment for all types of vehicles. Cardale Engineering Co. Ltd., Mr. R. A. Sibley (D, I), Selbourne Rd., Luton LU4 8NT. WTD in prep.

35891—PORTUGAL — Cafeteria, snackbar, kitchen equipment. Novas Tecnicas de Contrucao e Decoracao, Lda. (I, A), Rua do Centro Cultural 43, Lisbon 2. WTD in prep.

35891 — THAILAND — Food cooking equipment, stainless steel, commercial type; i.e., cooking kettles, etc. Requests c.i.f. Bangkok prices, catalogs, brochures. Thai Engineering & Equipment Ltd., Partnership, Attn: Mr. Pleng Punlee (A, D, I), 1182/1 Nakorn Chaisri Rd., Bangkok 3. WTD in prep.

35892—INDONESIA—Water purification systems for producing feed water to boilers capacity range from one cubic meter (264 gallons) to 100 cm (26,400 gallons). H. P. T. Tri Bina Teknik (construction contractor), Jalan Niaga 40 (Atas), Surabaya. WTD 11/72.

35892—JAMAICA—Sewage, water treatment and waste disposal equipment. Brochures, quotations c.i.f. Kingston. Atco Ltd., contact Stephen Dunn (I, D, M), 36 Hagley Park Rd., Kingston 10. WTD 11/72. East Coast contacts desired.

35892—JAMAICA—Sewage purification equipment and plants for extended aeration, contact stabilization, chemical/biological treatment and biofiltration treatment. Hydro-Engineering Specialists, Attn: Mr. D. J. Smith (I, D, sewage plant construction contractor), 13 Caramelo Dr., Kingston 8. WTD 11/72.

Machinery

35991 — SPAIN — Oil filters for trucks, cars, etc. Louis H. Heydeman (A), Marina 10, Santa Cruz de Tenerife, Canary Islands. WTD 4/72.

Electric transmission, distribution equipment

36112—UNITED KINGDOM—AC multimeter, voltage to 600, amps 0-10, resistance 0-5000, digital readout preferred. Edgcumbe Peebles Ltd., Attn: Dr. J. McGregor, Mng. Dir. (M, D, exporter), Bothwell, Glasgow G71 8EZ, Scotland. WTD 9/72.

36113—UNITED KINGDOM—Chart recorder for thermocouple readout, 2 in. wide making about one dot per second; hot line detector to detect AC voltages from 1 to 400 KV with rough measurement of voltage. Edgcumbe Peebles Ltd., Attn: Dr. J. McGregor, Mng. Dir. (M, D, exporter), Bothwell, Glasgow G71 8EZ, Scotland. WTD 9/72.

36132—TAIWAN—Oil circuit breaker. Tee Lee International Corp. (I, D, A), 15 Hankuo St., Sec. 1, Taipei (100). WTD 4/71.

36133 — TAIWAN — Disconnecting switches. Tee Lee International Corp. (I, D, A), 15 Hankuo St., Sec. 1, Taipei (100). WTD 4/71.

Electrical industrial apparatus

36212—JAMAICA—Portable generating sets to provide alternating current. Wills Battery Co. Ltd., Attn: W. D. Soutar (I, A, D), 66 Slipe Rd., Kingston 5. WTD 11/72.

36291 — TAIWAN — Capacitor circuit panels; capacitor banks. Tee Lee International Corp. (I, D, A), 15 Hankuo St., Sec. 1, Taipei (100). WTD 4/72.

Household appliances

36311 — MALAWI — Electric household ranges. Press (Holdings) Ltd. (A, D, R), Box 1227, Blantyre. WTD in prep.

36321—MALAWI—Household refrigerators. Press (Holdings) Ltd. (A, D, R), Box 1227, Blantyre. WTD in prep.

36331 — MALAWI — Household washing machines. Press (Holdings) Ltd. (A, D, R), Box 1227, Blantyre. WTD in prep.

36341 — SPAIN — Electric fans 110V/220V, AC, DC, interchangeable, etc.; table and wall models, suitable for use on ships in tropical waters. Louis H. Heydeman (A), Marina 10, Santa Cruz de Tenerife, Canary Islands. WTD 4/72.

36344 — JAMAICA — Small household electrical appliances. Quotations c.i.f. Cayman Islands. Home Supplies Ltd., Attn: Mr. Brian Finnigan (I, A, R), Shedden Rd., P.O. Box 291, Grand Cayman. WTD 11/72.

36360 — PAKISTAN — Automatic men's shirtmaking machinery. Catalogs, descriptive materials with c. & f. Karachi prices requested as soon as possible. United Zarba International (I, D), P.O. Box 470, Lahore. (Cable: Uzarba). WTD in prep.

36393 — PORTUGAL — Household food waste disposals. Novas Tecnicas de Contrucao e Decoracao, Lda. (I, A), Rua do Centro Cultural 43, Lisbon 2. WTD in prep.

Electric lighting, wiring equipment

36430 — UNITED KINGDOM — Numerically controlled semi-automatic wire termination (wire-wrap) system. Quest Automation Ltd. (M, D, exporter), Ferndown Industrial Estate, Stapehill, Wimborne, Dorset BH21 7NP. WTD in prep.

Radio, television receiving sets

36514 — ISRAEL — Recording machines and recording equipment for educational purposes. C.T.S.—Chemical & Technical Supplies Ltd. (I, A, D), 17 Mikve Israel St., P.O. Box 10, Tel Aviv. WTD 12/72.

Communication equipment

36612—FRANCE—Automatic telephone speakers. Vareduc Comimex Colmant et Cie (A, D), 2, Rue Joseph Riviere, 92400 Courbevoie. WTD 11/72.

36620—SPAIN—Microwave in general applied to TV transmission. Payma, S.L. Enrique Larreta 9, Madrid 16. WTD 2/72.

36621 — FRANCE — Radio transceivers, portable transceivers. Vareduc Comimex Colmant et Cie. (A, D), 2, Rue Joseph Riviere, 92400 Courbevoie. WTD 11/72.

36622 — NICARAGUA — Educational closed circuit TV monochrome system. Specifically: Zoom type portable camera, ambulatory tripod mount, portable control console with monitor TV equipped with magnetic video/audio tape record playback plus output to remote 23 in. monitor TV, record/playback mechanism to accommodate standard width video recordings, optional movie screen projection system fed by output of portable console. Total system video/audio 115/230 vac. Request specifications, brochures, unit prices on basic system, options. Quote f.o.b. factory and f.a.s. Miami. Casaibenicucci (I, D, R), Apartado Postal 788, Managua. WTD in prep.

36623—ITALY—Antiburglar and fire detection systems. Lart, S.R.L. (D), Via Dei Cignoli 3, 20100 Milan. WTD 9/72.

36623—ITALY—Antiburglar and fire detection systems. SSI Sistemi di Sicurezza Internazionali S.R.L. (D), Via Zezon 8, 20124 Milan. WTD 9/72.

36623—SPAIN—Alarm and signal systems. Sistemas y Organizaciones de Seguridad, S.A. (S.O.S., S.A.) (D, R, M), Aribau 300, Barcelona 6. WTD 7/72.

36625 — VIETNAM — Electronic fishing equipment such as fish finders and electronic communication equipment, for installation on fishing boats from 40 to 300 tons. Chantiers des Ateliers Reunis D' Indochine (CARIC) (I, D, M), 17 Ben Bach Dang, Saigon, P.O. Box No. F-6, Cable Address: Carindo-Saigon. WTD in prep.

Electronic components, accessories

36740—JAPAN—IC's for UHF and SHF use; semiconductor elements for microwave; silicon controlled rectifiers, semiconductor display device (include also liquid crystal). Microtek Inc. (I, A), 2-8 Nishi Shinjuku 7-Chome, Shinjuku-ku, Tokyo 160. WTD 11/72.

36741—CANADA — Semiconductors and integrated circuits (mil. spec. devices). Complete product line and exclusive agency or distributorship for all of Canada desired. John G. Weis Co. Ltd. (I, A, D), 5725 Monkland Ave., Montreal 260, Quebec. WTD 12/72.

36741—UNITED KINGDOM—Thin film circuits; active filters. Probe Engineering Co. Ltd. (M, D, exporter), The Avenue, Cirencester, Gloucestershire. WTD in prep.

36743—FRANCE—Diodes L.E.D. Siemelec (A, D), 134, Rue de Tocqueville, 75017 Paris. WTD in prep.

36749—CANADA—Solid state photoelectric cells, solar cells. Exclusive agency or distributorship for all of Canada desired. John G. Weis Co. Ltd. (I, A, D), 5725 Monkland Ave., Montreal 260. WTD 12/72.

36749 — NETHERLANDS — Etal oxide semiconducter memories. Famatra Benelux, Attn: Mr. H. Geurink (I, D), P.O. Box 721, Breda. WTD in prep.

36795—FRANCE—Relays. Siemelec (A, D), 134, Rue de Tocqueville 75017 Paris. WTD in prep.

36795—GERMANY—Advanced electronic materials for production of semiconductors and film devices. Desires agency on worldwide basis. Demetron Gesellschaft Fur Elektronik-Werkstoffe (M), 6450 Hanau/Main, Leipziger Strasse 10. WTD in prep.

36795—UNITED KINGDOM — Standard aluminum components for assembly into electronic chassis. May wish to manufacture under license. Exacta Circuits Ltd. (M, D, exporter), Shawburn Factory, Selkirk, Scotland. WTD in prep.

Electrical machinery, equipment, supplies

36911—ITALY—Extra light plastic cased automotive batteries. Brunero E. Sartoris (A, D), Via Sacchi 54, 10128 Torino. WTD 11/72.

36930 — UNITED KINGDOM — Medical pressure / temperature transducers and recording equipment. Elecomatic Ltd., Attn: J. Jardine, Mng. Dir. (M, D, exporter), Kirktonfield Rd., Neilston, Glasgow, Scotland. WTD in prep.

36930 — UNITED KINGDOM — Fairly complex optical or electronic, or both, medical instrumentation. Barr & Stroud Ltd., Attn: Gordon Johnson (M, D), Anniesland, Glasgow G13 1HZ, Scotland. WTD 6/72. Firm interested only in products which will eventually manufacture under license.

Motor vehicles, equipment

37141—ITALY — Automobile windshield wipers specially designed for high speed driving, safety cushioned boards and differentiated shock absorbers. Brunnero E. Sartoris (A, D), Via Sacchi 54, 10128 Torino. WTD 11/72.

Instruments for measurement, analysis and control

38213 — SWITZERLAND — Magnetic flow meters; vortex flow meters; level control meters for liquids and solid materials. Rosemount Engineering AG (I, A, D), P.O. Box 1140, Attn: Mr. H. P. Zwicky, 6301 Zug.

38213 — UNITED KINGDOM — Automated humidity controls for use in agricultural feed formulation. Maclaren Controls Ltd., Attn: L. R. Milward, Mng. Dir. (M, D, exporter), 333 West St., Glasgow G5 8JE, Scotland.

38214 — SWEDEN — Gas analyzers for small workshops to be used for 4-, 6-, and 8-cylinder motor cars. Price range must be between 1,000 Swedish crowns to 1,500 Swedish crowns. Agency involves direct shipment to well-established distributors in Sweden, Denmark, Norway. Jockton Motor Agencies AB (I, A, D), Sveavagen 127, S-113 49 Stockholm. Attn: Mr. Julius Jockton. WTD in prep.

38220—GERMANY—High quality thermostats, to be sold as complementary products along with company's own line of therman fuses. Efen Elektrotechnische Fabrik Otto Frees GmbH (M, D), 6228 Eltville, Postfach 68. WTD 4/71.

Optical instruments, lenses

38311 — SPAIN — Spectrophotometers. Payma, S. L. (A, D, I), Enrique Larrita 9, Madrid 16. WTD 2/72.

Surgical, medical, dental instruments

38410 — THAILAND — Anaesthesia apparatus; orthopedic operating tables; gynecological examining tables; obstetric delivery and operating tables; major operating tables; operating lamps; oxygen tents; suction and pressure apparatus. Requests c.i.f. Bangkok prices, catalogs, brochures. Thai Engineering & Equipment Ltd., Partnership, Attn: Mr. Pleng Punlee. (A, D, I), 1182/1 Nakorn Chaisri Rd., Bangkok 3. WTD in prep.

38410—UNITED KINGDOM—New medical hypodermic equipment such as I.V. canular, catheters, special needles including disposables; new, innovative surgical instruments including disposables; mass produced artificial organs and disposable elements thereof; e.g., artificial kidney, blood oxygenator, and disposable filters necessary. Everett Medical Products Ltd., Attn: R. M. Knight, Dir. (M, D, exporter), 2-10 Commonside East, Mitcham, Surrey CR4 1YN.

38421—UNITED KINGDOM—Procedure pack trays. These are single packages of broad range of sterilized equipment for one type of patient, prepared outside hospital to save hospital labor. Everett Medical Products Ltd., Attn: R. M. Knight, Dir. (M, D, exporter), 2-10 Commonside East, Mitcham, Surrey CR4 1YN.

Photographic equipment

38611 — ISRAEL — Projectors 16 mm. stereo; slide/strip film and combinations; overhead projectors; including screens, for audio-visual education. C.T.S.-Chemical & Technical Supplies Ltd. (I, A, D), 17 Mikve Israel St., P.O. Box 10, Tel Aviv. WTD 12/72.

38615—TAIWAN—Polyester films. Tee Lee International Corp. (I, A, D), 15 Hankuo St., Sec. 1, Taipei (100). WTD 4/71.

Jewelry, silverware, plated ware

39111 — CANADA — Relatively inexpensive line of 14k gold jewelry centered around earrings, bracelets, necklaces and charms. Exclusive distributorship in central and eastern Canada for resale to retail trade. Jewelry to be imported in bulk, then packaged and possibly refinished in Montreal. Mr. A. L. Fosbrooke, Secretary, Bijouterie de la Plaza (I, D, R), 420 Jean Talon East 301, Montreal 327, Quebec. WTD in prep.

Pens, pencils, office, artists' materials

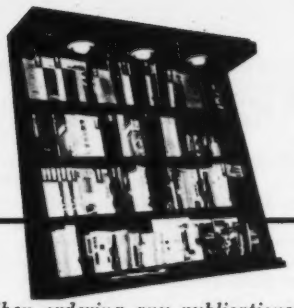
39550 — THAILAND — Mimeograph stencil paper. Requests c.i.f. Bangkok prices, samples. F. Abbas R.O.P. (I, D), 1200-4 New Rd., Near G.P.O., P.O. Box 1690, Bangkok. WTD in prep.

Algeria Seeks Equipment To Supply Language Lab

Algeria is inviting bids for supply of a command console for 20 booths in a language lab, each supplied with two headsets, radios, tape recorders and record turntables; 20 sound-insulated booths, each with headset and tape recorder and tape. Accessories and spares: one student (booth) tape recorder, one record turntable, 3 headsets, 100 tapes (30-60 minutes) one high-speed degausser, one head degausser, one voltage regulator. Tender documents, in French, are available from Service des Marches, Commissariate National a l'Informatique, 2eme Etage, 4 Blvd. Mohamed V, Algiers. When received, documents will also be available from the Science and Electronics Division, BDC-720, U.S. Department of Commerce, Washington, D.C. 20230 (202-967-4822).

Turkish Firm Seeks U.S. Help In Building, Equipping Plant

The Turkish firm, Asma Iplik Cuval Italat Imalat Sanayii Ve Ticaret, plans to establish a plant to produce synthetic fiber, yarn and fabric, using polypropylene as raw material. The plant will consume 1,200 tons of polypropylene per year. The products to be manufactured will include polypropylene bags, banding for the packing industry, yarns, and fabrics. The firm is interested in receiving proposals from U.S. companies for the supply of machinery and the supervision of construction. U.S. firms can contact the above firm at Kucukesat Caddesi 37/4, Ankara. Attn: Dr. Mustafa Ecemis.



New Publications

When ordering any publications, indicate title and series designation, if indicated, and make checks or money orders payable to the Superintendent of Documents. Orders should be sent to the U.S. Department of Commerce, Washington, D.C. 20230, or to any of its field offices.

UNITED STATES TRAVEL SERVICE

A study of Japanese travel habits and patterns: Vol. 1. 92pp. $1.50. Contains the findings of an exploratory study carried out in Japan during July.

DOMESTIC AND INTERNATIONAL BUSINESS

BUREAU OF DOMESTIC COMMERCE

Containers and packaging. Quarterly industry report. October 1972. Vol. 25, No. 3. Annual subscription $1 (25¢ additional for foreign mailing). Single copy 25¢.

BUREAU OF INTERNATIONAL COMMERCE

Export Control Bulletin—supplement to export control regulations (ECB-OEC-74). Nov. 22. 20pp. 40¢.

International Marketing Information Service

Exhibitor's Export Market Guide

British industry steps up demand for electronics test and measuring devices (IMIS 72-042). 8pp. 10¢.

Overseas Business Reports

Annual subscription $16 ($5 more for foreign mailing). Single copy 15¢.

Selling in the United Kingdom (OBR 72-064). November 1972.

The Caribbean Free Trade Association (OBR 72-058). 20pp.

Selling in the Netherlands (OBR 72-060). 16pp.

Market factors in Yugoslavia (OBR 72-061). 12pp.

Market factors in Belgium (OBR 72-062). 20pp.

ECONOMIC AFFAIRS

SOCIAL AND ECONOMIC STATISTICS ADMINISTRATION

BUREAU OF ECONOMIC ANALYSIS

Business Conditions Digest. Series ES1 No. 72-11. Data through October. Annual subscription, including supplements, $15 ($3.75 more for foreign mailing). Single copy $1.50.

Defense indicators. Series ES4 No. 72-11. Annual subscription $3.50 ($1 more for foreign mailing). Single copy 35¢. The purpose of this monthly report is to bring together the principal time series on defense activity.

Survey of current business. Vol. 52, No. 11. Annual subscription, including weekly statistical supplement, $9 ($3.75 more for foreign mailing). Single copy $1.

BUREAU OF THE CENSUS

Bureau of the Census Catalog. Jan.-Sept. 1972. 212pp. Subscription price $3 for four consecutive issues, including 12 issues of the monthly supplement (75¢ additional for foreign mailing). Price this issue $1. Each issue includes descriptions of the reports issued and other material that became available during the period covered. Part 1 contains publications; part 2 contains data files and special tabulations.

Agriculture

Report on cotton ginnings prior to November 1 for the crop of 1972, by States (A10: 72-6). 2pp. 10¢.

Report on cotton ginnings prior to November 15 for the crop of 1972, by States, and bale weight of cotton ginned prior to November 1, by specified States (A10: 72-7). 2pp. 10¢.

Report on cotton ginnings prior to November 1 for the crop of 1972, by counties (A20: 72-3). 6pp. 10¢.

Construction and Housing

Housing starts: October 1972 (C20-72-10). 20pp. Annual subscription $2. Single copy 20¢.

Housing completions: September 1972 (C22-72-9). 12pp. Annual subscription $1. Single copy 10¢.

New one-family homes sold and for sale: September (C25-72-9). 24pp. Annual subscription $3. Single copy (monthly) 10¢, (annual) $2.

Housing units authorized for demolition in permit-issuing places: 1971 (C45-1971). 60pp. $1.

Housing authorized by building permits and public contracts: September (C40-72-9). 94pp. Annual subscription, Series C40, $8. Single copy (annual) $2. ($2 additional for foreign mailing). Single copy (monthly) 55¢.

Authorized construction — Washington, D.C. area: October (C41-72-10). 4pp. Annual subscription $1. Single copy 10¢.

Market absorption of apartments: third quarter 1972. (H-130-72-3). 4pp. Annual subscription $1.50. Single copy (quarterly) 25¢. Single copy (annual) 50¢.

Distribution and Services

Weekly retail sales for week ending November 25 (CB-72-277). 2pp. 10¢.

Weekly retail sales for week ending December 2 (CB-72-282). 2pp. 10¢.

Foreign Trade

Export and import merchandise: October (FT 900-72-10). 8pp. Annual subscription (FT 900, 975, 985 and 986 combined) $3. Single copy 10¢.

Highlights of exports and imports: October (FT 990-72-10). 120pp. Annual subscription $5 ($1.25 more for foreign mailing). Single copy 45¢.

Waterborne exports and general imports: August (FT 985-72-8). 20pp. Annual subscription (FT 900, 975, 985 and 986 combined) $3. Single copy 10¢.

Imports—commodity by country (FT 135-72-9). 224pp. Annual subscription $21. ($5.25 more for foreign mailing). Single copy $1.75.

Gold movements: October (FT 2402-72-10). 2pp. Annual subscription $1. Single copy 10¢.

Industry

Annual survey of manufactures: 1970 (M70(AS)-9). Value-of-shipment concentration ratios. 48pp. 25¢. This special preprint from the 1970 Annual Survey of Manufactures provides concentration ratios and other information on the share of industrial activity accounted for by the largest companies, both for the United States as a whole and for each of approximately 422 manufacturing industries.

Cotton, manmade fiber staple, and linters: summary for cotton season 1971-72 (Series: M22P(72)-13). 8pp. $1.50 per year. Single copy 15¢.

Sheets, pillowcases and towels: 1971 (Series: MA-23X(71)-1). 2pp.

Cotton broadwoven fabrics—weight and width of fabrics: 1954-first quarter 1972 (Series: MQ-22T.1(72)-1). 8pp. $1 per year. Single copy 25¢. Supplement.

Shipments of knit cloth, including interplant transfers: summary for 1971 (Series MQ-22K(71)-5). 14pp. $1 per year. Single copy 25¢.

Inorganic chemicals: 1971 (Series M28A-(71)-14). 2pp. Change sheet.

Population

1970 Census of Population

Detailed Characteristics

District of Columbia (PC(1)-D10). 418-pp. $3.50.

Tennessee (PC(1)-D44). 782pp. $5.75.

General Social and Economic Characteristics

Puerto Rico (PC(1)-C53). 416pp. $1.

Current Population Reports

Population Estimates and Projections

Estimates of the population of the United States to Oct. 1 (Series P-25, No. 492). 2pp. 5¢.

Population Characteristics

Educational attainment: March 1972 (Series P-20, No. 243). 72pp. 65¢.

Federal-State Cooperative Program for Population Estimates

Estimates of the population of South Dakota counties July 1, 1971 (Series P-26, No. 12). 4pp. 10¢.

Estimates of the population of Idaho counties: July 1, 1971 and 1972 (Series P-26, No. 9). 4pp. 10¢.

Estimates of the population of Utah counties: July 1, 1971 and 1972 (Series P-26, No. 10). 2pp. 5¢.

Estimates of the population of Arizona counties: July 1, 1971 (Series P-26, No. 11). 2pp. 5¢.

ECONOMIC DEVELOPMENT ADMIN.

Economic Development. December 1972. Vol. 9, No. 12. Annual subscription $1 (50¢ more for foreign mailing). Single copy 15¢.

SCIENCE AND TECHNOLOGY

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Environmental Data Service

Monthly climatic data for the world. Vol. 25, No. 4. April 1972. Annual subscription $5.50. ($1 more for foreign mailing). Single copy 50¢. Published by the World Meteorological Organization in cooperation with NOAA, in accordance with resolution 27 of the Second World Meteorological Congress. Make checks payable to U.S. Department of Commerce, NOAA; send payments and orders to: National Climatic Center, Federal Bldg., Asheville, N.C. 28801, Attn: Publications.

Average monthly weather outlook: December 1972. Vol. 26, No. 23. Annual subscription $3.50. Domestic airmail $2.40 additional. Foreign surface mail $3.50 additional. Gives resume of average rainfall and temperature for the preceding month and the weather outlook for the following month.

Daily weather maps. Weekly series. Nov. 20-26, 1972. Annual subscription $7.50. Domestic airmail $5.20 extra. Foreign surface mail $7.50 extra. Single copy 15¢. Charts include the surface weather map, the 500-millibar height contours chart, the highest and lowest temperatures chart, and the precipitation areas and amounts chart.

Environmental Research Laboratories

Sea surface topography from space—Vol. 1 (Tech. Report ERL 228-AOML 7). 388-pp. $1.25. Proceedings of a conference sponsored jointly by NOAA, NASA, and the U.S. Navy, Key Biscayne, Fla., Oct. 6-8, 1971.

A three-station lightning detection system (Tech. Report ERL 239-APCL 23). 48pp. 75¢. A three-station network is described which senses magnetic and electric fields of lightning.

Wind recorder, current meter and thermistor chain measurements in the northeast Pacific: August/September 1971. (Tech. Report ERL 240-POL 12). 44pp. 75¢. Data are presented in computer-generated output as standard statistics, histograms, progressive vector diagrams, time series plots and spectra.

The APEEL Array: a site study (Tech. Report ERL 245-ESL 22). 24pp. 60¢. A comprehensive array of strong-motion seismographs has been established in the San Francisco Bay area.

NATIONAL BUREAU OF STANDARDS

Bibliography of temperature measurement: January 1953 to December 1969 (Spec. Publ. 373). 140pp. $2. Consolidates into a single publication National Bureau of Standards Monograph 27 (January 1953 to June 1960) and its two supplements (September 13, 1963 and April 28, 1967, respectively) together with 1800 new references.

Optical radiation measurements: photometric calibration procedures (Tech. Note 594-3). 36pp. 60¢. The National Bureau of Standards supplies calibrations of luminous intensity, luminous flux and color temperature on a routine basis. The procedures, equipment and techniques used to perform these calibrations as of October 1972 are described.

Critical evaluation of data in the physical sciences—a status report on the National Standard Reference Data System: June 1972 (Tech. Note 747). 80pp. $1.25. Recent activities of the Office of Standard Reference Data are summarized and future plans are indicated.

Standard x-ray diffraction powder patterns (Monog. 25, Sec. 10). 161pp. $2. Standard x-ray diffraction patterns are presented for 84 substances; 47 represent experimental data and 37 are calculated.

The mechanisms of pyrolysis, oxidation and burning of organic material (Spec. Publ. 357). 199pp. $3.25. A symposium on the mechanisms of pyrolysis, oxidation and burning of organic materials was held at the National Bureau of Standards in October 1970. This volume contains the 19 papers presented and much of the discussion which followed.

COMBO: a general-purpose program for searching, annotating, encoding-decoding and reformatting data files (Tech. Note 700). 68pp. 75¢.

Rigid poly vinyl chloride (PVC) plastic siding (PS 55-72). 16pp. 15¢. A voluntary standard developed by producers, distributors and users with the cooperation of the National Bureau of Standards.

NATIONAL TECHNICAL INFORMATION SERVICE

Order the following reports on Government-sponsored research from: National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22151. Make check or money order payable to National Technical Information Service. Price of each document is $3, unless otherwise specified. All reports are available in microfiche for 95¢ apiece.

Bibliography of reported biological phenomena ('effects') and clinical manifestations attributed to microwave and radio-frequency radiation (AD-750 271). Naval Medical Research Institute, Bethesda, Md. 106pp. Contains more than 2,300 references on biological responses to radio frequency and microwave radiation.

A comprehensive computer-aided building design system (PB-212 615). MIT, Cambridge, Mass. 68pp. $4.50. Considers the building as a system and shows the need for a comprehensive computer-aided building design system.

Noise assessment guidelines (PB-212 350). Bolt, Beranek and Newman, Inc., Cambridge, Mass. 38pp. Describes procedures whereby people without technical training can assess the exposure of a housing site to present and future noise conditions.

Evaluation of a multi-functional machine for use in sanitary landfill operations in sparsely populated areas (PB-212 589). Battelle Memorial Institute, Richland, Wash. 218pp. $6.75 Evaluates a rubber-tired vehicle for use in compacting waste and soil cover material, excavating and spreading soil cover, and distributing refuse for compaction.

Science and technology for the cities (PB-212 762). National League of Cities and U.S. Conference of Mayors, Washington, D.C. 120pp. Discusses potential for utilization of scientific and technical personnel by local governments.

Energy potential from organic wastes: a review of the quantities and sources (PB-211 249). U.S. Bureau of Mines. 21pp. $2.30. Itemizes and evaluates amounts of moisture- and ash-free organic material contained in manure, urban refuse, industrial waste, sewage solids, and agricultural wastes in the United States.

Whales, whaling and whale research: a selected bibliography (AD-748 173). TRW Systems Group, Redondo Beach, Cal. 74pp. $4:50.

The effects of strip mining upon navigable waters and their tributaries: discussion and selected bibliography (AD-749 802). U. of Pittsburgh. 100pp.

State radiation control legislation: 1971 (PB-212 424). Bureau of Radiological Health, Rockville, Md. 64pp.

Nature of the lead paint poisoning hazard (PB-212 617). National Bureau of Standards. 22pp. Discusses symptoms of the disease, geographical extent, associated environmental factors, and characteristics of the population most susceptible to lead poisoning.

Study of blood-banking in the United States (PB-212 410). Research Foundation of the State University of New York, Buffalo. 133pp. $5.45.

Reclamation: rail transport economics of substitutability of recycled scrap or waste for basic raw materials (PB-212 037). H. O. Whitten & Assoc., Annadale, Va. 111pp. Studies transportation rates and other transportation characteristics related to movement of secondary products vis à vis basic raw materials for which they may be substituted. Report gives a case study of rail transport of scrap iron or steel as compared with iron ore.

Occupational outlook for college graduates: 1972-73 (PB-212 391). Bureau of Labor Statistics. 275pp. $2. Guide to employment opportunities in a broad range of professional and related occupations for which a college education is required.

Cooperation of mutually suspicious subsystems in a computer utility (AD-750 173). MIT. 170pp. Describes practical protection mechanisms that allow mutually suspicious subsystems to cooperate in a single computation and still be protected from one another.

The planets: solved and unsolved problems (N72-24852). Translated from the Russian. 94pp. Deals with problems of planetary physics; reviews contributions of worldwide research on astronomy, surface astronomy, and space technology. Includes a list of physical constants for all the planets and their satellites.

The minor planets (N72-24873). Translated from the Russian. 106pp.

Analysis of Surveyor III material and photographs returned by Apollo XII (N72-26731). NASA. 302pp. $4.

Control of shoplifting: model characteristics and response contingencies as determinants of bystander intervention (PB-212 591). U. of Utah. 65pp. $4.50. Investigates bystander and shoplifter characteristics, especially the observing and reporting of shoplifters by bystanders. Incidents were videotaped and subjects were interviewed as to whether or not they had seen the incident, and why they did or did not report it.

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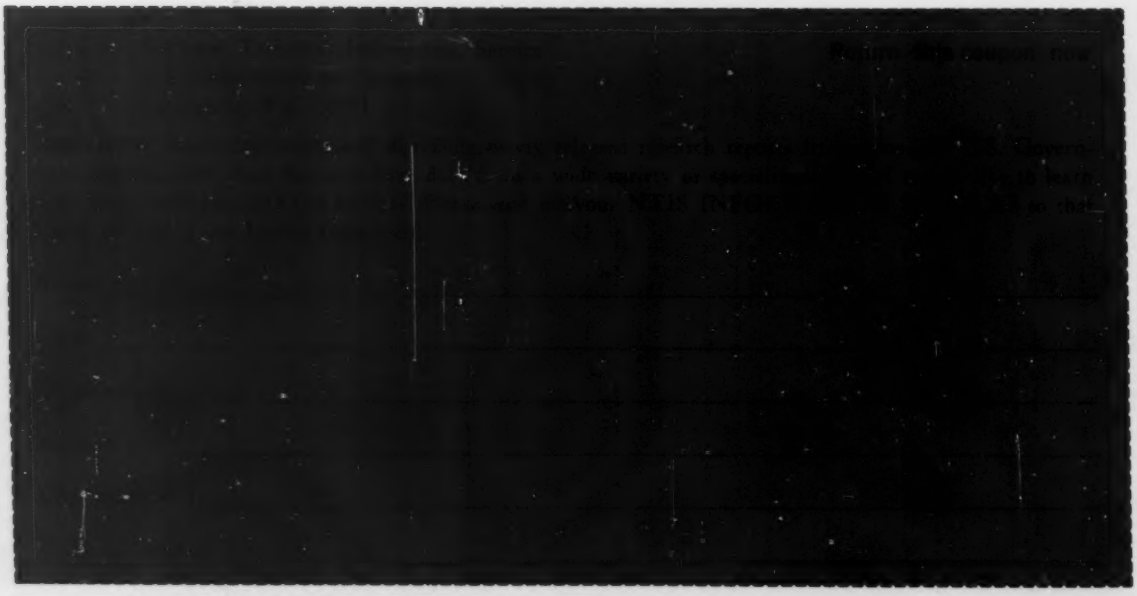

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